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UNIVERSITY of NORTHERN COLORADO

Research Day 2014

Highlighting and recognizing graduate and undergraduate student research throughout all disciplines at the University of Northern Colorado.

University of Northern Colorado's
Annual Research Conference during
Academic Excellence Week

April 10, 2014

University Center

Sponsored and facilitated by
Office of Undergraduate Research
Center for Honors, Scholars & Leadership
Graduate Student Association
The Graduate School

Bringing education to life.

Acknowledgements

The Office of Undergraduate Research, the Center for Honors, Scholars and Leadership, and Graduate Student Association would like to extend their thanks to the following individuals and groups who were instrumental in the organizing and facilitating of this year's Research Day:

Brian Zielenski, Graduate Assistant for the Office of Undergraduate Research
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Lyda Ellis, Faculty Fellow for Undergraduate Research
Linda Black, Dean of the Graduate School
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Academic Affairs
Academic Excellence Week Committee
The Graduate School
Graduate Student Association
MAST Institute
McNair Scholars
Office of Sponsored Programs
School of Biological Sciences
Student Honors Council
Student Activities
Student Senate
University Scheduling and Events

Academic Excellence Week Poster and Program Cover Artwork created by Arturo Bugarin Correa

Direct questions regarding Research Day and Academic Excellence Week to

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A full list of abstracts is available on the website at www.unco.edu/aew

Publish your research in UNC's
Undergraduate Research Journal
UNC Undergraduate Students are invited to submit their manuscripts for inclusion in the **Spring 2015 Issue.**
Manuscript Submission FINAL Deadline is
December 1, 2014
All Research Excellence Award Undergraduate Abstracts are published in the Fall Issue.

Find out more at www.unco.edu/hsl/our/online_research_journal.html
or e-mail us at our@unco.edu

Research Excellence Awards

The Research Excellence Awards program was established to encourage and reward those presentations that exemplify the highest levels of excellence in research. Only a limited number of presentations were accepted into the awards program, and each will be evaluated by a team of faculty on Research Day.

Awards will be presented to the top scoring posters and individual presenters within each of the two categories: Graduate and Undergraduate. ***The awards will be presented at 4:00 PM – 5:00 PM in Columbine A on Research Day. All presenters are asked to stay for the awards.***

Research Excellence Posters

Mt Evans and Pikes Peak Ballrooms

Graduate Research Excellence Posters:

10:00am – noon

Saudi International College Female Students' Social Media Identity
Educational Technology
Presenter(s): Alruwaili, Tahani
Faculty Sponsor(s): Gall, James

Cost Benefit Analysis of Improving Outcomes by Accurately Assessing Body Temperature Using Temporal Artery Scan Thermometers
Nursing
Presenter(s): Murphy, Lesley
Faculty Sponsor(s): Henderson, Ann

Beyond the Minimalist Ethical Codes: Research with Young Children
Special Education
Presenter(s): Mongkolrat, Raveema
Faculty Sponsor(s): Lahman, Maria

Using Communication Applications on iPad: To Request My Needs
Special Education
Presenter(s): Shugdar, Effat
Faculty Sponsor(s): Luckner, John

Aerobic and Cognitive Training Improves Psychosocial Variables in Cancer Survivors Following Radiation Therapy
Sport & Exercise Science
Presenter(s): Beebe, Corey
Faculty Sponsor(s): Hayward, Reid

The Effects Of Aerobic Training On Cognitive Function In A Brain Cancer Survivor: A Case Study
Sport & Exercise Science
Presenter(s): Brennecke, Alyse
Faculty Sponsor(s): Hayward, Reid

Undergraduate Research Excellence Posters:

01:00pm - 03:00pm

Insights from a hybrid zone: song diversity and song evolution among sage sparrows in Owens Valley California
Biological Sciences
Presenter(s): King, Carissa
Faculty Sponsor(s): Benedict, Lauryn

The Effects Of An Aerobic And Cognitive Training Intervention On Cognitive Function, Psychological, And Physiological Variables In Cancer Survivors And Non-Cancer Controls: A Pilot Study
Sport & Exercise Science
Presenter(s): Medrano, Jesus
Faculty Sponsor(s): Hayward, Reid

Reconstructing activity patterns at Epidamnus, Albania: Impacts of Greek and Roman colonization
Anthropology
Presenter(s): Wright, Jennifer
Faculty Sponsor(s): McIlvaine, Britney

Greca; Use of Art as a Social Distinguisher in Mexico
Art & Design
Presenter(s): Bugarin Correa, Arturo
Faculty Sponsor(s): Coronel, Chip; Weis, Robert

What's Love Got To Do With It? How Minor Property Crime Relates to Domestic Violence
Criminal Justice
Presenter(s): Holien, Jaclyn
Faculty Sponsor(s): West-Smith, Mary

The Preliminary Effects of Colorado Senate Bill 10-191: Educator Effectiveness on Secondary Education Preservice Teachers
Educational Studies
Presenter(s): Crandell, Michelle
Faculty Sponsor(s): Boyce, Travis

The Influence of Historical Violin Treatises on Modern Teaching and Performance Practices
Music Education
Presenter(s): Hann, Hanna
Faculty Sponsor(s): Ehle, Robert

Female Sexual Socialization in Relation to Sexual Decision Making Processes
Women's Studies
Presenter(s): Amin, Lisha
Faculty Sponsor(s): Traxler, Karen

Influences of False-Evidence Ploys on Jurors' Verdicts and Perceptions of the Defendant
Psychology
Presenter(s): Best, Rachel
Faculty Sponsor(s): Traxler, Karen

The Effects Of A 12-Week Aerobic And Cognitive Training Intervention On Psychological, Muscular Endurance, And Attention In Cancer Survivors: A Pilot Study
Sport & Exercise Science
Presenter(s): McPhee, Rachel
Faculty Sponsor(s): Peterson, Brent

Research Excellence Oral Presentations

Council Room

Undergraduate Research Excellence Oral Presentations:

09:00am - 09:15am

6-Thiopurine and Thiol-Fluorescent Probes
Chemistry
Presenter(s): Forst, Tassie
Faculty Sponsor(s): Hyslop, Richard

9:15am – 9:30am

Determining Groundwater Flow through the Study of Soil Horizons, Subsurface Geology, and Vegetation at the Poudre Learning Center
Earth Sciences
Presenter(s): Arenas, Kali; Kettle, Jasen; Hernandez, Julie;
Faculty Sponsor(s): Hoyt, William

10:00am - 10:15am

Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design
Business Administration
Presenter(s): Neel, Jake
Faculty Sponsor(s): Cahalan, Joseph

10:15am – 10:30am

What Fosters a Successful Resident Assistant? A Qualitative Study on Resident Assistant's Development of Self-Authorship
Higher Education & Student Affairs Leadership
Presenter(s): Stice, Rachel
Faculty Sponsor(s): Birnbaum, Matthew

10:30am – 10:45am

Current Literature on Sensory Processing Specificity in Autism
Psychology
Presenter(s): McReynolds, Jannessa
Faculty Sponsor(s): Karlin, Nancy

11:00am – 11:15am

Dispelling the Stigma of Mental Illness: What Sort of Information Is Most Effective?
Communication Studies
Presenter(s): Fogel, Casey
Faculty Sponsor(s): Fulton, Jarae

11:15am – 11:30am

Sexuality, Masculinity, and Gender fluidity in early 20th century China
Asian Studies
Presenter(s): Adams, William
Faculty Sponsor(s): Low, Michelle

Graduate Research Excellence Oral Presentations

Council Room

1:00pm - 1:15pm

(Longs Peak Ballroom)
TCDD enhances LPS stimulated TNF production in human THP-1 macrophages
Biological Sciences
Presenter(s): Pikalova, Vera
Faculty Sponsor(s): DeKrey, Gregory

1:15pm – 1:30pm

Movement Strategies During Stand To Sit And Sit To Stand Tasks In Transtibial Amputees
Sport & Exercise Science
Presenter(s): Ferris, Abbie
Faculty Sponsor(s): Smith, Jeremy

1:30pm – 1:45pm

Effects of Load Carriage and Footwear on Spatiotemporal Parameters, Kinematics, and Metabolic Cost of Walking
Sport & Exercise Science
Presenter(s): Dames, Kevin
Faculty Sponsor(s): Smith, Jeremy

2:00pm – 2:15pm

Native American College Students: Making Meaning of Identity and Culture at a Predominately White Institution
Higher Education & Student Affairs Leadership
Presenter(s): Loften, Larry; Lemonedes, Genia; Matsumoto, Courtney; McCue, Katie; Hannen, Christine;
Faculty Sponsor(s): Guido, Flo

2:15pm – 2:30pm

Humor as an instructional technique and its influence on interest, relatedness,affect,and learning.
Educational Psychology
Presenter(s): Machlev, Moshe
Faculty Sponsor(s): Phillips, Michael

2:30pm – 2:45pm

Positive Professional Development: Experiences of New Professionals in Student Affairs
Higher Education & Student Affairs Leadership
Presenter(s): Dinise-Halter, Amy
Faculty Sponsor(s): Yakaboski, Tamara

3:00pm – 3:15pm

Struggling for Air: The Union Balloon Corps and the Bureaucratic-Intelligence Experiment
History
Presenter(s): Snell, Timothy

3:15pm – 3:30pm

Reexamining the Past: The Yellow Turban Rebellion in the Work of Sima Guang (1019-1086 CE)
History
Presenter(s): Zielenski, Brian
Faculty Sponsor(s): Fong, Adam

Honors Program Presentations

Students who have reached high levels of academic achievement may enter the Honors Program as incoming Freshmen, Current UNC students or Transfer students. Encouraging original thinking and research, the Honors Program guides its students through a curriculum of interdisiplinary study, experiential learning, and independent research. All students who graduate with Honors from the program must submit an orginal thesis or creative capstone project and present their project in public.

Honors Oral Presentations

Aspen B (unless otherwise noted)

Session 1
09:00 - 09:15 in the Morning
(Council Room)
6-Thiopurine and Thiol-Fluorescent Probes
Chemistry
Presenter(s): Forst, Tassie
Faculty Sponsor(s): Hyslop, Richard

Session 3
10:00am - 10:15am
No Child Left Unharmed: The Image of the Child in The Hunger Games
English
Presenter(s): Harvey, Sara
Faculty Sponsor(s): Bovaird-Abbo, Kristin

10:00am - 10:15am
*****Research Exellence Award Finalist*****
In Council Room
Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design
Business Administration
Presenter(s): Neel, Jake
Faculty Sponsor(s): Cahalan, Joseph

Session 4
10:15 - 10:30 in the Morning
*****Research Exellence Award Finalist*****
In Council Room
What Fosters a Successful Resident Assistant? A Qualitative Study on Resident Assistant's Development of Self-Authorship
Higher Education & Student Affairs Leadership
Presenter(s): Stice, Rachel
Faculty Sponsor(s): Birnbaum, Matthew

Session 5
10:20 - 10:35 in the Morning
Learning a Foreign Language: The benefits and the Perceptions of College Students
Spanish
Presenter(s): Hoyt, Aaron
Faculty Sponsor(s): Ryan, John

Session 7
11:00 - 11:15 in the Morning
Secondary science pre-teachers understanding of English as a Second Language (ESL) student and accommodations
Educational Studies
Presenter(s): Mueller, Hannah
Faculty Sponsor(s): Reinsvold, Rob

11:00 - 11:15 in the Morning
*****Research Exellence Award Finalist*****
In Council Room
Dispelling the Stigma of Mental Illness: What Sort of Information Is Most Effective?
Communication Studies
Presenter(s): Fogel, Casey
Faculty Sponsor(s): Fulton, Jarae

Session 8
11:20 - 11:35 in the Morning
Neuropsychological Functioning in Student Veterans
Psychology
Presenter(s): Doty, Corey
Faculty Sponsor(s): Dunn, Thomas

Session 9
11:40 - 11:55 in the Morning
Anti-European Union Political Parties in Britain, France, and Germany
Political Science
Presenter(s): Chaney, Sarah
Faculty Sponsor(s): Bownas, Richard

Session 12
01:20 - 01:35 in the Afternoon
The Relationship Between Core Endurance and Ability to Recover From a Perturbation
Sport & Exercise Science
Presenter(s): Jones-Hershinow, Carlie
Faculty Sponsor(s): Smith, Jeremy

Session 15
02:20 - 02:35 in the Afternoon
Education Starts at Home: Using Family History to Create an Integrated Curriculum
Elementary Education
Presenter(s): Jones, Lindsay
Faculty Sponsor(s): Romero, Deborah

Session 16
02:40 - 02:55 in the Afternoon
Resource Relationship Characteristics of Homeless Youth Accessing Higher Education Opportunities
Sociology
Presenter(s): Morones, Seth
Faculty Sponsor(s): Musick, David; Houser, Jeffrey

Session 17
03:00 - 03:15 in the Afternoon
Building a Culture: Interactions Between Linguistics and Mythology in a Creative Setting
English
Presenter(s): Vogel, Sarah
Faculty Sponsor(s): Bovaird-Abbo, Kristin

Honors Poster Sessions

Mt. Evans Ballroom and Pikes Peak Ballroom

Morning Poster Session
10:00 – Noon

Rough Cut: A Look into Women's Roles in Contemporary Cinema
Film Studies
Presenter(s): Gresko, Gina
Faculty Sponsor(s): Chan, Kenneth

The Development and Assessment of a Bystander Intervention Educational Program for Undergraduate Students
Higher Education & Student Affairs Leadership
Presenter(s): McCully, Savannah
Faculty Sponsor(s): Haynes, Chayla

Communication and Relationships Between Primary Care Physician and Refugees
Human Services
Presenter(s): Anderson, Kirsten
Faculty Sponsor(s): Bezyak, Jill

Afternoon Poster Session
01:00 - 03:00 in the Afternoon

Greca; Use of Art as a Social Distinguisher in Mexico
Art & Design
Presenter(s): Bugarin Correa, Arturo
Faculty Sponsor(s): Coronel, Chip; Weis, Robert

The Effect of Gender Roles and Conflict Communication Management on Domestic Violence: A College Student Perspective
Communication Studies
Presenter(s): Cooper, Nikki
Faculty Sponsor(s): Donley, Melissa

Imagination to Music: Creating an Orchestral Score for a Silent Film, "The Nut"
Music
Presenter(s): James, Amelia
Faculty Sponsor(s): Ehle, Robert

The Influence of Historical Violin Treatises on Modern Teaching and Performance Practices
Music Education
Presenter(s): Hann, Hanna
Faculty Sponsor(s): Ehle, Robert

Isolating the Markers from the Ideologies of Islam: A Quantitative Approach In Defining "Islamophobia"
Sociology
Presenter(s): Hanna, Luke
Faculty Sponsor(s): Packard, Joshua

Biology Poster Session
03:30 - 04:30 in the Afternoon

Epithelial to Mesenchymal Transition Induction by zfh-1
Biological Sciences
Presenter(s): Kennedy, Rana
Faculty Sponsor(s): Leatherman, Judith

McNair Scholars Presentations

The McNair Scholars Program provides undergraduate research opportunities designed to prepare eligible juniors and seniors for graduate school. As a member of the federal TRIO family of programs, the McNair Scholars Program is dedicated to increasing access to doctoral education among currently underrepresented groups.

Oral Presentations

10:00am - 10:15am
Aspen B
No Child Left Unharmed: The Image of the Child in The Hunger Games
English
Presenter(s): Harvey, Sara
Faculty Sponsor(s): Bovaird-Abbo, Kristin

10:00am - 10:15am
Council Room
Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design
Business Administration
Presenter(s): Neel, Jake
Faculty Sponsor(s): Cahalan, Joseph

02:40 - 02:55 pm
Resource Relationship Characteristics of Homeless Youth Accessing Higher Education Opportunities
Sociology
Presenter(s): Morones, Seth
Faculty Sponsor(s): Musick, David; Houser, Jeffrey

Poster Sessions

Mt. Evans Ballroom and Pikes Peak Ballroom

Morning Poster Session
10:00am - Noon

Illness: Understanding, Treatment, and Influences
Anthropology
Presenter(s): Mai, Phu
Faculty Sponsor(s): Duncan Johnson, Whitney

Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design
Business Administration
Presenter(s): Neel, Jake
Faculty Sponsor(s): Cahalan, Joseph

Face-wise Chromatic Number
Mathematics
Presenter(s): Myrant, Catrina
Faculty Sponsor(s): Levin, Oscar

Defining the Spatial and Maximum Intensity of the Louisville Urban Heat Island
Meteorology
Presenter(s): Clark, Joshua
Faculty Sponsor(s): Shellito, Lucinda

School Stress, Academic Performance, and Coping in College Freshmen
Psychology
Presenter(s): Hill, Curtis
Faculty Sponsor(s): Hess, Robyn

The Factors that Explain the Use of Complementary and Alternative Medicine in Undergraduates
Social Science
Presenter(s): Sanchez, Erin
Faculty Sponsor(s): Hutchinson, Susan

Afternoon Poster Session
01:00pm - 03:00pm

The Effects Of An Aerobic And Cognitive Training Intervention On Cognitive Function, Psychological, And Physiological Variables In Cancer Survivors And Non-Cancer Controls: A Pilot Study
Sport & Exercise Science
Presenter(s): Medrano, Jesus
Faculty Sponsor(s): Hayward, Reid

Reconstructing activity patterns at Epidamnus, Albania: Impacts of Greek and Roman colonization
Anthropology
Presenter(s): Wright, Jennifer
Faculty Sponsor(s): McIlvaine, Britney

Social and Reading Inference Performance in Typically Developing College Students
Audiology & speech-language sciences
Presenter(s): Krehbiel, Pamela
Faculty Sponsor(s): Murza, Kimberly

What's Love Got To Do With It? How Minor Property Crime Relates to Domestic Violence
Criminal Justice
Presenter(s): Holien, Jaclyn
Faculty Sponsor(s): West-Smith, Mary

The Preliminary Effects of Colorado Senate Bill 10-191: Educator Effectiveness on Secondary Education Preservice Teachers
Educational Studies
Presenter(s): Crandell, Michelle
Faculty Sponsor(s): Boyce, Travis

Parental Involvement and Student Academic Success of 7th Grade AVID Students
Educational Studies
Presenter(s): Jurado, Marisol
Faculty Sponsor(s): Bezyak, Jill

Evidence for Universal Grammar in Nicaraguan Sign Language
Foreign Languages
Presenter(s): Gonzalez, Martin
Faculty Sponsor(s): Ryan, John

Female Sexual Socialization in Relation to Sexual Decision Making Processes
Women's Studies
Presenter(s): Amin, Lisha
Faculty Sponsor(s): Traxler, Karen

Adolescents and Disclosure: Influence of Stigma and Knowledge of Psychological Diagnosis
Psychology
Presenter(s): Trimble, Kyra
Faculty Sponsor(s): Traxler, Karen

Cue Reactivity of Marijuana Craving: An investigation Examining Cognitive and Academic Impairment
Psychology
Presenter(s): Vigil, Daniel
Faculty Sponsor(s): Phillips, Kristina

Postural Stability and Hip Abductor Strength
Sport & Exercise Science
Presenter(s): Ojerio, JT
Faculty Sponsor(s): Heise, Gary

McNair Scholars Program helps make dreams come true!

The McNair Scholars Program is dedicated to increasing access to doctoral education among currently underrepresented groups.

Program Eligibility

Juniors and seniors with a 3.0 or higher GPA. (may apply as Sophomore)
First-generation, low-income students and/or members of underrepresented populations in graduate education.
Committed to completing a graduate degree.

Find out more at www.unco.edu/mcnair or e-mail mcnair.scholars@unco.edu

Graduate Biology Oral Presentations

Longs Peak Ballroom

08:30am
The Effects of Bats on the Influx of Nutrients and Communal Diversity of Cliff Ecosystems
Presenter(s): Rolfe, Ashley
Faculty Sponsor(s): Adams, Rick

8:40am
Identifying and Characterizing Three-finger Toxins in Rear-fanged Snake Venoms
Presenter(s): Modahl, Cassie
Faculty Sponsor(s): Mackessy, Steve

8:55am
BTB-zinc finger transcriptional regulator ZBTB24 and its role in human disease
Presenter(s): Gerrard, Diana
Faculty Sponsor(s): Frietze, Seth

9:05am
Mixed Methods Exploratory Study on Biology Undergraduate Choices, Persistence, and Departure
Presenter(s): Munyaka, Biscah
Faculty Sponsor(s): DeChenne, Sue Ellen

9:15am
A Method to Isolate Bovine Corpora Lutea Cells using Percoll Gradient Fractionation
Presenter(s): Graham, Peter E.
Faculty Sponsor(s): Burns, Patrick

9:30am
Vegetative Classification of the Pawnee National Grassland, USA
Presenter(s): Brandt, Amber
Faculty Sponsor(s): Franklin, Scott

9:45am
Tzabcanin, a novel snake venom disintegrin, inhibits aVß3-mediated cell adhesion and migration in melanoma (A-375) cells
Presenter(s): Saviola, Anthony
Faculty Sponsor(s): Mackessy, Stephen

10:00 - 10:15am Break

10:15am
BMP signaling in the somatic cyst stem cell lineage in Drosophila melanogaster testes
Presenter(s): Major III, James
Faculty Sponsor(s): Leatherman, Judith

10:30am
Ecology, Life History, and Signal Complexity: Rock Wren Song Repertoires
Presenter(s): Najar, Nadje
Faculty Sponsor(s): Benedict, Lauryn

10:45am
Antiflaviviral therapy: future prospects from today's drugs
Presenter(s): Jubair, Widian
Faculty Sponsor(s): Keenan, Susan

10:55am
Layer Specific Dopaminergic Effects on Frequency Dependent Short-term Synaptic Plasticity
Presenter(s): Leyrer, Jonna
Faculty Sponsor(s): Thomas, Mark

11:10am
The Role of Cytosolic Calcium in Persistent Firing of Layer V Pyramidal Neurons in mouse mPFC
Presenter(s): Johnson, Vanessa
Faculty Sponsor(s): Thomas, Mark

11:20am
Behavioral type and social network organization in the Spiny-tailed Iguana (Ctenosaura similis)
Presenter(s): Nash, AE
Faculty Sponsor(s): Mackessy, Stephen

11:35am
Genetic Studies of the Mariposa Lily (Calochortus gunnisonii): An Investigation of Potential Plant Population Divergence and Speciation Mechanisms
Presenter(s): Fuller, Ryan
Faculty Sponsor(s): McGlaughlin, Mitchell

11:50am
Enzymatic activity and cytotoxicity of Crotalus oreganus concolor venom
Presenter(s): Smith, Cara
Faculty Sponsor(s): Mackessy, Stephen

12:00pm
Variation in venom composition between island populations of the White-lipped Island Pitviper, Trimeresurus insularis
Biological Sciences
Presenter(s): Jones, Brenda
Faculty Sponsor(s): Mackessy, Stephen

12:10pm - 1:00pm Lunch

1:00pm
Research Excellence Award Finalist
TCDD enhances LPS stimulated TNF production in human THP-1 macrophages
Presenter(s): Pikalova, Vera
Faculty Sponsor(s): DeKrey, Gregory

1:15pm
A Model for Assessing Critical Thinking in an Undergraduate Biology Program
Presenter(s): Cleveland, Lacy; McCabe, Thomas;
Faculty Sponsor(s): Mackessy, Stephen

1:30pm
Differential gene expression patterns of Tacaribe virus infected Jamaican fruit bats and their immune system implications
Presenter(s): Hume, Greta
Faculty Sponsor(s): Hawkinson, Ann

1:45pm
Three-way Interactions among Barrel Medic Plants, Beneficial Fungi and Insects
Presenter(s): Maurya, Abhinav Kumar
Faculty Sponsor(s): Gomez, Susana

1:55pm
Dynamics and Structure of Social Behaviors of Bats, with Reference to the Jamaican Fruit Bat (Artibeus Jamaicensis)
Presenter(s): Cheong, Sydney
Faculty Sponsor(s): Adams, Rick

2:05pm
Mechanisms of TCB-2 induced Burst Firing in Pyramidal Neurons of the Mouse Medial Prefrontal Cortex
Presenter(s): Spindle, Michael
Faculty Sponsor(s): Thomas, Mark

2:15pm – 2:30pm Break

2:30pm
Effects of TCDD on Leishmania major burdens in pre-infected C57Bl/c mice
Presenter(s): Henshall, Tyler
Faculty Sponsor(s): DeKrey, Gregory

2:40pm
Tests for contaminant exposure and potential health and biodiversity effects in wild bats of Sichuan Province, China
Presenter(s): Heiker, Laura
Faculty Sponsor(s): Adams, Rick

2:55pm
Efficacy of Enzymatic Assays in Probing for Longitudinal Shifts in Local Rattlesnake Venom Composition
Presenter(s): McCabe, Thomas
Faculty Sponsor(s): Mackessy, Stephen

3:10pm
PDGF-VEGF receptor-related (Pvr), a receptor tyrosine kinase (RTK) in the Drosophila testis stem cell niche
Presenter(s): Hammer, Kenneth
Faculty Sponsor(s): Leatherman, Judith

3:25pm
Potential Environmental Impacts of Oil and Natural Gas Development on Proximate Flora
Presenter(s): Hogden, Randi
Faculty Sponsor(s): Franklin, Scott

Oral Research Presentations

Session 1
09:00am - 09:15am

Aspen C
Study of a Contemporary Leader: John F. Kennedy
Business Administration
Presenter(s): Loberg, Megan
Faculty Sponsor(s): Clinebell, Sharon
Undergraduate Presentation

Columbine B
Multiple Session Presentation: Sessions 1, 2,3,4,5,6
Masters in Public Health Capstone Presentations
Public Health
Presenter(s): Freeman, Rachel; Wardle, Brittany; Gomez, Juan; West, Jasmine; Brummer, LeeAnne, Laedtke, Devin; Duggan, Shannyn; Peirce, Casey
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Council Room (9:00-9:15)
Research Excellence Award Finalist
6-Thiopurine and Thiol-Fluorescent Probes
Chemistry
Presenter(s): Forst, Tassie
Faculty Sponsor(s): Hyslop, Richard
Undergraduate Presentation

Council Room (9:15-9:30)
Research Excellence Award Finalist
Determining Groundwater Flow through the Study of Soil Horizons, Subsurface Geology, and Vegetation at the Poudre Learning Center
Earth Sciences
Presenter(s): Arenas, Kali; Kettle, Jasen; Hernandez, Julie;
Faculty Sponsor(s): Hoyt, William
Research Excellence Award Finalist
Undergraduate Presentation

Session 2
09:20am - 09:35am

Aspen C
Entre Dos Obras Medievales: El Libro Del Conde Lucanor Y El Libro De Buen Amor
Spanish
Presenter(s): Richardson, Spencer
Faculty Sponsor(s): Garza, Efrain
Undergraduate Presentation

Columbine A
Significant mathematical accomplishments in XX century
Mathematics
Presenter(s): Barton, Jack; Johnson, Kayla;
Faculty Sponsor(s): Szczyrba, Igor
Undergraduate Presentation

Columbine B
Multiple Session Presentation: Sessions 1, 2,3,4,5,6
Masters in Public Health Capstone Presentations
Public Health
Presenter(s): Freeman, Rachel; Wardle, Brittany; Gomez, Juan; West, Jasmine; Brummer, LeeAnne, Laedtke, Devin; Duggan, Shannyn; Peirce, Casey
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Spruce A
Multiple Session Presentations: 2,3
How HIV&AID's has Devastated the Country of Haiti
Africana Studies
Presenter(s): White, Josiah
Faculty Sponsor(s): Gardner, Mitchell
Undergraduate Presentation

Spruce B
Multiple Session Presentations: 4,5
Modifying Baked Products to Meet Dietary Needs - I
Dietetics
Presenter(s): Abramson, Kandace; White, Toni; Wood, Kristen; Wagner, Kelly;
Faculty Sponsor(s): Stauter, Judy
Undergraduate Presentation

Session 3
09:40am - 9:55am

Columbine B
Multiple Session Presentation: Sessions 1, 2,3,4,5,6
Masters in Public Health Capstone Presentations
Public Health
Presenter(s): Freeman, Rachel; Wardle, Brittany; Gomez, Juan; West, Jasmine; Brummer, LeeAnne, Laedtke, Devin; Duggan, Shannyn; Peirce, Casey
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Spruce A
Multiple Session Presentations: 2,3
How HIV&AID's has Devastated the Country of Haiti
Africana Studies
Presenter(s): White, Josiah
Faculty Sponsor(s): Gardner, Mitchell
Undergraduate Presentation

Spruce B
Multiple Session Presentations: 4,5
Modifying Baked Products to Meet Dietary Needs - I
Dietetics
Presenter(s): Abramson, Kandace; White, Toni; Wood, Kristen; Wagner, Kelly;
Faculty Sponsor(s): Stauter, Judy
Undergraduate Presentation

Session 4
10:00am - 10:15am

Aspen B
No Child Left Unharmed: The Image of the Child in The Hunger Games
English
Presenter(s): Harvey, Sara
Faculty Sponsor(s): Bovaird-Abbo, Kristin
Undergraduate Presentation

Aspen C
Literatura y Feminismo: crítica positiva y negativa al discurso feminista
Spanish
Presenter(s): Ward, Patricia
Faculty Sponsor(s): Garza, Efrain
Undergraduate Presentation

Columbine B
Multiple Session Presentation: Sessions 1, 2,3,4,5,6
Masters in Public Health Capstone Presentations
Public Health
Presenter(s): Freeman, Rachel; Wardle, Brittany; Gomez, Juan; West, Jasmine; Brummer, LeeAnne, Laedtke, Devin; Duggan, Shannyn; Peirce, Casey
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Council Room (10:00am – 10:15 am)
Research Excellence Award Finalist
Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design
Business Administration
Presenter(s): Neel, Jake
Faculty Sponsor(s): Cahalan, Joseph
Undergraduate Presentation

Council Room (10:15am – 10:30 am)
Research Excellence Award Finalist
What Fosters a Successful Resident Assistant? A Qualitative Study on Resident Assistant's Development of Self-Authorship
Higher Education & Student Affairs Leadership
Presenter(s): Stice, Rachel
Faculty Sponsor(s): Birnbaum, Matthew
Undergraduate Presentation

Spruce B
Multiple Session Presentations: 2,3
The effect of pre-workout supplementations containing creatine, caffeine and amino acids on exercise performance
Nutrition
Presenter(s): Segura, Cameron; Silliman, Mallory;
Faculty Sponsor(s): Gould, Susan
Undergraduate Presentation

Session 5
10:20am - 10:35am

Aspen B
Learning a Foreign Language: The benefits and the Perceptions of College Students
Spanish
Presenter(s): Hoyt, Aaron
Faculty Sponsor(s): Ryan, John
Undergraduate Presentation

Aspen C
Paradoja de la generación del 98
Spanish
Presenter(s): Stark, Molly
Faculty Sponsor(s): Garza, Efrain
Undergraduate Presentation

Columbine B
Multiple Session Presentation: Sessions 1, 2,3,4,5,6
Masters in Public Health Capstone Presentations
Public Health
Presenter(s): Freeman, Rachel; Wardle, Brittany; Gomez, Juan; West, Jasmine; Brummer, LeeAnne, Laedtke, Devin; Duggan, Shannyn; Pierce, Casey
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Council Room (10:30am – 10:45am)
Research Excellence Award Finalist
Current Literature on Sensory Processing Specificity in Autism
Psychology
Presenter(s): McReynolds, Jannessa
Faculty Sponsor(s): Karlin, Nancy
Research Excellence Award Finalist
Undergraduate Presentation

Spruce B
Multiple Session Presentations: 2,3
The effect of pre-workout supplementations containing creatine, caffeine and amino acids on exercise performance
Nutrition, Nutrition
Presenter(s): Segura, Cameron; Silliman, Mallory;
Faculty Sponsor(s): Gould, Susan
Undergraduate Presentation

Session 6
10:40am - 10:55am

Aspen C
Noise Levels for Senior Center Woodworking Tools and the Risk for Noise-Induced Hearing Loss
Audiology & speech-language sciences
Presenter(s): Erbaugh, Holly
Graduate Presentation

Columbine A
'Unusual' applications of mathematics
Music
Presenter(s): Finnegan, Molly; Vegter, Mackenzie;
Faculty Sponsor(s): Szczyrba, Igor
Undergraduate Presentation

Columbine B
Multiple Session Presentation: Sessions 1, 2,3,4,5,6
Masters in Public Health Capstone Presentations
Public Health
Presenter(s): Freeman, Rachel; Wardle, Brittany; Gomez, Juan; West, Jasmine; Brummer, LeeAnne, Laedtke, Devin; Duggan, Shannyn; Pierce, Casey
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Spruce A
Poder e identidad en las obras de Rosa Montero
Spanish
Presenter(s): Byrdsong, Brian
Faculty Sponsor(s): Garza, Efrain
Undergraduate Presentation

Spruce B
La censura española: En la ardiente oscuridad y Los ojos.
Spanish
Presenter(s): Madigan, Tana
Faculty Sponsor(s): Garza, Efrain
Undergraduate Presentation

Session 7
11:00am - 11:15am

Aspen B
Secondary science pre-teachers understanding of English as a Second Language (ESL) student and accommodations
Educational Studies
Presenter(s): Mueller, Hannah
Faculty Sponsor(s): Crow, Loree
Undergraduate Presentation

Council Room (11:00 am -11:15am)
Research Excellence Award Finalist
Dispelling the Stigma of Mental Illness: What Sort of Information Is Most Effective?
Communication Studies
Presenter(s): Fogel, Casey
Faculty Sponsor(s): Fulton, Jarae
Undergraduate Presentation

Council Room (11:15 am -11:30am)
Research Excellence Award Finalist
Sexuality, Masculinity, and Gender fluidity in early 20th century China
Asian Studies
Presenter(s): Adams, William
Faculty Sponsor(s): Low, Michelle
Undergraduate Presentation

Spruce A
Multiple Presentation Session: 7,8
Courageous Conversations: Voices of Immigrant Women
Mexican American Studies
Presenter(s): Nevarez Ruiz, Cinthia; Salazar Turriago, Vanesa;
Faculty Sponsor(s): Falcon, Priscilla
Undergraduate Presentation

Spruce C
Multiple Presentation Session: 7,8
Evaluation of the United Way of Weld County's Self Sufficiency Program
Sociology
Presenter(s): Staiano, Victoria
Faculty Sponsor(s): Moore, Mel
Undergraduate Presentation

Session 8
11:20am - 11:35am

Aspen B
Neuropsychological Functioning in Student Veterans
Psychology
Presenter(s): Doty, Corey
Faculty Sponsor(s): Dunn, Thomas
Undergraduate Presentation

Columbine B
Multiple Presentation Session: 8,9
Cross-Cultural Gender Variants: Anthropology's Partnered Research with GLBTA
Anthropology
Presenter(s): Bergum, Taylor; Russo, Victoria; Morones, Seth; Marsh, Rebekah; Davila, Lissabel; Morris, Savannah; Maxfield, Nicole; Rasmussen, Anna; Barr, Tana;
Faculty Sponsor(s): Maynard, Kody
Undergraduate Presentation

Spruce A
Multiple Presentation Session: 7,8
Courageous Conversations: Voices of Immigrant Women
Mexican American Studies
Presenter(s): Nevarez Ruiz, Cinthia; Salazar Turriago, Vanesa;
Faculty Sponsor(s): Falcon, Priscilla
Undergraduate Presentation

Spruce C
Multiple Presentation Session: 7,8
Evaluation of the United Way of Weld County's Self Sufficiency Program
Sociology
Presenter(s): Staiano, Victoria
Faculty Sponsor(s): Moore, Mel
Undergraduate Presentation

Session 9
11:40am - 11:55am

Aspen B
Anti-European Union Political Parties in Britain, France, and Germany
Political Science
Presenter(s): Chaney, Sarah
Faculty Sponsor(s): Bownas, Richard
Undergraduate Presentation

Aspen C
Evaluation of Iodine Deficiencies of Pregnant Women in the United States
Dietetics
Presenter(s): Franklin, Grace
Faculty Sponsor(s): Clark, Alena
Graduate Presentation

Columbine B
Multiple Presentation Session: 8,9
Cross-Cultural Gender Variants: Anthropology's Partnered Research with GLBTA
Anthropology
Presenter(s): Bergum, Taylor; Russo, Victoria; Morones, Seth; Marsh, Rebekah; Davila, Lissabel; Morris, Savannah; Maxfield, Nicole; Rasmussen, Anna; Barr, Tana;
Faculty Sponsor(s): Maynard, Kody
Undergraduate Presentation

Spruce B
Weaponized drones should not be used in warfare.
Communication Studies
Presenter(s): Luca, Michael
Faculty Sponsor(s): Allen, Lin
Undergraduate Presentation

Spruce C
Decreasing the Readmission Rate for Patients 65 years and Older
Nursing
Presenter(s): Steveson, Debra
Graduate Presentation

Session 10
12:15pm - 01:00pm

Columbine A
Multiple Presentation Sessions: 10,11,12
Red Stiletto Heels, Statue of Liberty, & Social Justice—I Know What Chicana/o Art I Like When I See It!
Mexican American Studies
Presenter(s): Canales, Genie; Ruth, Timothy; Guerra, Eledora; Bissett, Susan;
Faculty Sponsor(s): Canales, Genie
Undergraduate Presentation

Session 11
01:00am - 01:15am

Aspen B
Therapy Dogs and the Elderly: Mood and Morale Boost
Psychology
Presenter(s): Hayes, Mandi
Faculty Sponsor(s): Traxler, Karen
Undergraduate Presentation

Columbine A
Multiple Presentation Sessions: 10,11,12
Red Stiletto Heels, Statue of Liberty, & Social Justice—I Know What Chicana/o Art I Like When I See It!
Mexican American Studies
Presenter(s): Canales, Genie; Ruth, Timothy; Guerra, Eledora; Bissett, Susan;
Faculty Sponsor(s): Canales, Genie
Undergraduate Presentation

Columbine B
The Samurai: The Meaning Behind the Warrior
History
Presenter(s): Harper, Collin
Faculty Sponsor(s): Fong, Adam
Undergraduate Presentation

Council Room (1:15-1:30)
Research Excellence Award Finalist
Movement Strategies During Stand To Sit And Sit To Stand Tasks In Transtibial Amputees
Sport & Exercise Science
Presenter(s): Ferris, Abbie
Faculty Sponsor(s): Smith, Jeremy
Graduate Presentation

Spruce B
Education Innovation Institute: Current Interns
Applied Statistics and Research Methods
Presenter(s): Grogan, Czarina; Jacobs, Amanda; Johnson, Chris; Hess, Chelsie;
Faculty Sponsor(s): Lalonde, Trent
Graduate Presentation

Spruce C
Multiple Presentation Sessions: 11,12,13,14
Positive Professional Development: Experiences of New Professionals in Student Affairs
Higher Education & Student Affairs Leadership
Presenter(s): Dinise-Halter, Amy
Faculty Sponsor(s): Yakaboski, Tamara
Graduate Presentation

Session 12
01:20pm - 01:35pm

Aspen B
The Relationship Between Core Endurance and Ability to Recover From a Perturbation
Sport & Exercise Science
Presenter(s): Jones-Hershinow, Carlie
Faculty Sponsor(s): Smith, Jeremy
Undergraduate Presentation

Columbine A
Multiple Presentation Sessions: 10,11,12
Red Stiletto Heels, Statue of Liberty, & Social Justice—I Know What Chicana/o Art I Like When I See It!
Mexican American Studies
Presenter(s): Canales, Genie; Ruth, Timothy; Guerra, Eledora; Bissett, Susan;
Faculty Sponsor(s): Canales, Genie
Undergraduate Presentation

Council Room (1:30-1:45)
Research Excellence Award Finalist
Effects of Load Carriage and Footwear on Spatiotemporal Parameters, Kinematics, and Metabolic Cost of Walking
Sport & Exercise Science
Presenter(s): Dames, Kevin
Faculty Sponsor(s): Smith, Jeremy
Graduate Presentation

Spruce A
Optimization of the synthesis of 2,4,6-trimethylphenyl,-1,10-phenanthroline
Chemistry
Presenter(s): Burgess, Danea
Graduate Presentation

Spruce B
A Philosophical Approach to Personal Counseling
Philosophy
Presenter(s): Wagner, August
Faculty Sponsor(s): Matchett, Nancy
Undergraduate Presentation

Spruce C
Multiple Presentation Sessions: 11,12,13,14
Positive Professional Development: Experiences of New Professionals in Student Affairs
Higher Education & Student Affairs Leadership
Presenter(s): Dinise-Halter, Amy
Faculty Sponsor(s): Yakaboski, Tamara
Graduate Presentation

Session 13
01:40pm - 01:55pm

Columbine B
Drums of the Islands: Taiko Drumming and Ethnic Identity in Hawaii
Asian Studies
Presenter(s): Takemoto, Tricia
Faculty Sponsor(s): Fong, Adam
Undergraduate Presentation

Spruce C
Multiple Presentation Sessions: 11,12,13,14
Positive Professional Development: Experiences of New Professionals in Student Affairs
Higher Education & Student Affairs Leadership
Presenter(s): Dinise-Halter, Amy
Faculty Sponsor(s): Yakaboski, Tamara
Graduate Presentation

Session 14
02:00pm - 02:15pm

Aspen C
Education Innovation Institute: Past Interns
Higher Education & Student Affairs Leadership
Presenter(s): Cohen, Joshua; Serna, Gabriel;
Faculty Sponsor(s): Lalonde, Trent
Graduate Presentation

Columbine B
The Shifting Shape of the Fox
Asian Studies
Presenter(s): Wiegand, Margaret
Faculty Sponsor(s): Low, Michelle
Undergraduate Presentation

Council Room
Research Excellence Award Finalist
Native American College Students: Making Meaning of Identity and Culture at a Predominately White Institution
Higher Education & Student Affairs Leadership
Presenter(s): Loften, Larry; Lemonedes, Genia; Matsumoto, Courtney; McCue, Katie; Hannen, Christine;
Faculty Sponsor(s): Guido, Flo
Graduate Presentation

Council Room (2:15pm- 2:30pm)
Research Excellence Award Finalist
Humor as an instructional technique and its influence on interest, relatedness, affect, and learning
Educational Psychology
Presenter(s): Machlev, Moshe
Faculty Sponsor(s): Phillips, Michael
Graduate Presentation

Spruce C
Multiple Presentation Sessions: 11,12,13,14
Positive Professional Development: Experiences of New Professionals in Student Affairs
Higher Education & Student Affairs Leadership
Presenter(s): Dinise-Halter, Amy
Faculty Sponsor(s): Yakaboski, Tamara
Graduate Presentation

Session 15
02:20pm - 02:35pm

Aspen B
Education Starts at Home: Using Family History to Create an Integrated Curriculum
Elementary Education
Presenter(s): Jones, Lindsay
Faculty Sponsor(s): Romero, Deborah
Undergraduate Presentation

Columbine B
A Tale of Two Dictatorships : Comparing the history of the military governments of Thailand and Korea in the Twentieth Century
History
Presenter(s): Yoo, Hyung Suk
Faculty Sponsor(s): Fong, Adam
Undergraduate Presentation

Council Room (2:30pm – 2:45pm)
Research Excellence Award Finalist
Positive Professional Development: Experiences of New Professionals in Student Affairs
Higher Education & Student Affairs Leadership
Presenter(s): Dinise-Halter, Amy
Faculty Sponsor(s): Yakaboski, Tamara
Graduate Presentation

Session 16
02:40pm - 02:55pm

Aspen B
Resource Relationship Characteristics of Homeless Youth Accessing Higher Education Opportunities
Sociology
Presenter(s): Morones, Seth
Faculty Sponsor(s): Musick, David; Houser, Jeffrey
Undergraduate Presentation

Session 17
03:00pm - 03:15pm

Aspen B
Building a Culture: Interactions Between Linguistics and Mythology in a Creative Setting
English
Presenter(s): Vogel, Sarah
Faculty Sponsor(s): Crow, Loree
Undergraduate Presentation

Aspen C
Multiple Presentation Sessions: 17,18
Modifying Baked Products to Meet Dietary Needs - II
Dietetics
Presenter(s): Goya, Kellie-Ann; Leon, Candellia; Szeto, Megan; Green, Sophie
Faculty Sponsor(s): Gould, Susan
Undergraduate Presentation

Council Room (3:00pm-3:15pm)
Research Excellence Award Finalist
Struggling for Air: The Union Balloon Corps and the Bureaucratic-Intelligence Experiment
History
Presenter(s): Snell, Timothy
Graduate Presentation

Council Room (3:15pm-3:30pm)
Research Excellence Award Finalist
Reexamining the Past: The Yellow Turban Rebellion in the Work of Sima Guang (1019-1086 CE)
History
Presenter(s): Zielenski, Brian
Faculty Sponsor(s): Fong, Adam
Graduate Presentation

Spruce C
Multiple Presentation Sessions: 17,18, 19
A Web of Victorian Disillusionment, Sexuality, and Gender
English
Presenter(s): Lambert, Ryan; Ryan, Sean; Stephenson, Ethan; Graham-Ellis, Sharon; Markway, Cameron
Graduate Presentation

Session 18
03:20pm - 03:35pm

Spruce C
Multiple Presentation Sessions: 17,18, 19
A Web of Victorian Disillusionment, Sexuality, and Gender
English
Presenter(s): Lambert, Ryan; Ryan, Sean; Stephenson, Ethan; Graham-Ellis, Sharon; Markway, Cameron
Graduate Presentation

Aspen C
Multiple Presentation Sessions: 17,18
Modifying Baked Products to Meet Dietary Needs - II
Dietetics
Presenter(s): Goya, Kellie-Ann; Leon, Candellia; Szeto, Megan; Green, Sophie
Faculty Sponsor(s): Gould, Susan
Undergraduate Presentation

Session 19
03:40pm - 03:55pm
Spruce C
Multiple Presentation Sessions: 17,18, 19
A Web of Victorian Disillusionment, Sexuality, and Gender
English
Presenter(s): Lambert, Ryan; Ryan, Sean; Stephenson, Ethan; Graham-Ellis, Sharon; Markway, Cameron
Graduate Presentation

Aspen C
Multiple Presentation Sessions: 13,14
Modifying Baked Products to Meet Dietary Needs - II
Dietetics
Presenter(s): Green, Sophie; Goya, Kellie-Ann; Leon, Candy; Szeto, Megan
Faculty Sponsor(s): Gould, Susan
Undergraduate Presentation

Poster Presentations

University Center
Pikes Peak and Mt Evans Ballrooms

Morning Poster Session 10:00am - Noon
Mt. Evans & Pikes Peak Ballroom

Anthropology
Illness: Understanding, Treatment, and Influences
Presenter(s): Mai, Phu
Faculty Sponsor(s): Duncan Johnson, Whitney
Undergraduate Presentation

Asian Studies
Examining Differences of Gender, Experience and Style on Motivation of Participants in Chinese Martial Arts
Presenter(s): Ouyang, Lei
Graduate Presentation

Audiology & Speech-Language Sciences
Augmentative and Alternative Communication: Comparing hand over hand instruction versus modeling in a school-age child with autism
Presenter(s): Daurio, Abbie
Faculty Sponsor(s): Hanks, Julie
Graduate Presentation

Using the Straw Technique and the Computer Speech Lab for Remediation of a Residual Lateral Lisp: A Case Study
Presenter(s): Halsey, Jessica
Faculty Sponsor(s): Hanks, Julie
Graduate Presentation

Structured Vs Unstructured Therapy: Decreasing secondary stuttering behaviors in a preschool-age child with a severe beginning level stuttering pattern
Presenter(s): Rea, Amber
Graduate Presentation

Biology
Evolution of venoms in western rattlesnakes: an analysis of metalloproteases in the Arizona Black Rattlesnake
Presenter(s): Naibauer, Samantha
Faculty Sponsor(s): Mackessy, Stephen
Undergraduate Presentation

Business Administration
Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design
Presenter(s): Neel, Jake
Faculty Sponsor(s): Cahalan, Joseph
Undergraduate Presentation

Chemistry
Imaging Fibrinogen and Biotin Using the Atomic Force Microscope
Presenter(s): Paden, Elizabeth; Summers, Audrey; Paden, Hannah;
Faculty Sponsor(s): Pacheco, Kimberly
Undergraduate Presentation

Chemical Syntheses with 1,10-phenanthroline
Presenter(s): Bresch, Cayla; Covelli, Daniel;
Faculty Sponsor(s): Pacheco, Kimberly
Undergraduate Presentation

Studies of Thin Films used for Adsorption of Fibrinogen and Fibrin
Presenter(s): Johnson, Patrick; Finch, Dina;
Faculty Sponsor(s): Pacheco, Kimberly
Undergraduate Presentation

Dietetics

InfaNET Website Update: Providing Infant Feeding Education to Child Care Providers
Presenter(s): Pearse, Carrie
Faculty Sponsor(s): Clark, Alena
Undergraduate Presentation

Educational Psychology

The Influence of Teacher Power on Self-Perceptions of Learner Empowerment Among UNCO Undergraduate Students
Presenter(s): Artzer, Rebecca; Goodnight, Brittany; Balderrama, Sarah; Marin, Gabriel; Zielke, Melanie;
Faculty Sponsor(s): Diaz, Abel
Undergraduate Presentation

An Investigation of the Influence of Topic Choice on High School Students' Motivation to Write
Presenter(s): Wolfrum, Alisha
Faculty Sponsor(s): Phillips, Michael
Graduate Presentation

Educational Studies

Parental Involvement and Student Academic Success of 7th Grade AVID Students
Presenter(s): Jurado, Marisol
Faculty Sponsor(s): Bezyak, Jill
Undergraduate Presentation

Educational Technology

Research Excellence Award Finalist
Saudi International College Female Students' Social Media Identity
Presenter(s): Alruwaili, Tahani
Faculty Sponsor(s): Gall, James
Graduate Presentation

English

We Will Carry the Word: Telling Victims' Stories and Telling Our Own
Presenter(s): Kraver, Jeraldine R.
Faculty Sponsor(s): Kraver, Jeraldine R.
Undergraduate Presentation

Film Studies

Rough Cut: A Look into Women's Roles in Contemporary Cinema
Presenter(s): Gresko, Gina
Faculty Sponsor(s): Crow, Loree
Undergraduate Presentation

Higher Education & Student Affairs Leadership

History of Academic Freedom for Faculty in the United States of America
Higher Education & Student Affairs Leadership
Presenter(s): Ingrisano, Jaime; Gorecki, Eric; Garcia, Fabian;
Faculty Sponsor(s): Guido, Flo
Graduate Presentation

The Development and Assessment of a Bystander Intervention Educational Program for Undergraduate Students
Higher Education & Student Affairs Leadership
Presenter(s): McCully, Savannah
Faculty Sponsor(s): Haynes, Chayla
Undergraduate Presentation

Human Services

Communication and Relationships Between Primary Care Physician and Refugees
Presenter(s): Anderson, Kirsten
Faculty Sponsor(s): Bezyak, Jill
Undergraduate Presentation

Mathematics

Face-wise Chromatic Number
Presenter(s): Myrant, Catrina
Faculty Sponsor(s): Levin, Oscar
Undergraduate Presentation

Meteorology

Defining the Spatial and Maximum Intensity of the Louisville Urban Heat Island
Presenter(s): Clark, Joshua
Faculty Sponsor(s): Shellito, Lucinda
Undergraduate Presentation

Nursing

Cost Benefit Analysis of Nasal Bridles to Secure Enteral Feeding Tubes at the VA Hospital
Presenter(s): Dancho, Angela
Faculty Sponsor(s): Henderson, Ann
Graduate Presentation

Saving Time and Money: Implementing an Operative Case Manager at Poudre Valley Hospital
Presenter(s): Gryskiewicz, Courtney
Graduate Presentation

Fast Track in the Emergency Department
Presenter(s): Howes, Pam
Faculty Sponsor(s): Henderson, Ann
Graduate Presentation

Research Excellence Award Finalist
Cost Benefit Analysis of Improving Outcomes by Accurately Assessing Body Temperature Using Temporal Artery Scan Thermometers
Presenter(s): Murphy, Lesley
Faculty Sponsor(s): Henderson, Ann
Graduate Presentation

Physics

Walking on Oil: Hydrodynamical Analogs of Quantum Phenomenon
Presenter(s): Gregg, Eric
Faculty Sponsor(s): Chaloupka, Jan
Undergraduate Presentation

Psychology

School Stress, Academic Performance, and Coping in College Freshmen
Presenter(s): Hill, Curtis
Faculty Sponsor(s): Hess, Robyn
Undergraduate Presentation

Social Science

The Paradoxical History and Continuity of the Objectified Female Sexuality
Presenter(s): Acosta, Benjamin
Faculty Sponsor(s): Boyce, Travis
Undergraduate Presentation

The Factors that Explain the Use of Complementary and Alternative Medicine in Undergraduates
Presenter(s): Sanchez, Erin
Faculty Sponsor(s): Hutchinson, Susan
Undergraduate Presentation

"Bringing Education to Life" at the Global Refugee Center
Presenter(s): Stone, Fallon; Mullane, Courtney; Strong, Brianna;
Faculty Sponsor(s): Marston, Christine
Undergraduate Presentation

Special Education

Ethical Codes for Studying Exceptional Students
Presenter(s): Lee, Chin-Wen
Faculty Sponsor(s): Lahman, Maria
Graduate Presentation

Research Excellence Award Finalist
Beyond the Minimalist Ethical Codes: Research with Young Children
Presenter(s): Mongkolrat, Raveema
Faculty Sponsor(s): Lahman, Maria
Graduate Presentation

Research Excellence Award Finalist
Using Communication Applications on iPad: To Request My Needs
Presenter(s): Shugdar, Effat
Faculty Sponsor(s): Luckner, John
Graduate Presentation

Sports and Exercise Science

Research Excellence Award Finalist
Aerobic and Cognitive Training Improves Psychosocial Variables in Cancer Survivors Following Radiation Therapy
Presenter(s): Beebe, Corey
Faculty Sponsor(s): Hayward, Reid
Graduate Presentation

The effects of Creatine Incubation on Doxorubicin-induced muscle Dysfunction.
Presenter(s): Bredahl, Eric
Graduate Presentation

Research Excellence Award Finalist
The Effects Of Aerobic Training On Cognitive Function In A Brain Cancer Survivor: A Case Study
Presenter(s): Brennecke, Alyse
Faculty Sponsor(s): Hayward, Reid
Graduate Presentation

Hockey fans unite: A uses and gratifications examination of how active Twitter use gratifies a need for connection among like-minded NHL fans
Presenter(s): Fischer, Kerry
Faculty Sponsor(s): Gray, Dianna
Graduate Presentation

Effect Of Aerobic Exercise Training On Cancer Induced Cardiac Dysfunction
Presenter(s): Parry, Traci
Faculty Sponsor(s): Hayward, Reid
Graduate Presentation

Afternoon Poster Session 1:00 PM – 3:00 PM

Mt. Evans & Pikes Peak Ballroom

Anthropology

Research Excellence Award Finalist
Reconstructing activity patterns at Epidamnus, Albania: Impacts of Greek and Roman colonization
Presenter(s): Wright, Jennifer
Faculty Sponsor(s): McIlvaine, Britney
Undergraduate Presentation

Applied Statistics and Research Methods

Caring for Participants: Conducting Responsive Research for Society's Benefit
Presenter(s): Neamphoka, Guntima
Graduate Presentation

Art & Design

Research Excellence Award Finalist
Greca; Use of Art as a Social Distinguisher in Mexico
Presenter(s): Bugarin Correa, Arturo
Faculty Sponsor(s): Coronel, Chip; Weis, Robert
Undergraduate Presentation

Audiology & Speech-Language Sciences

Traditional Conditioned Play Audiometry versus Visually Reinforced Operant Conditioning Audiometry
Presenter(s): Kinter, Kathleen
Faculty Sponsor(s): Weber, Jennifer
Graduate Presentation

Social and Reading Inference Performance in Typically Developing College Students
Presenter(s): Krehbiel, Pamela
Faculty Sponsor(s): Murza, Kimberly
Undergraduate Presentation

The Cochlear Implant in Children
Presenter(s): Starr, Brooke
Faculty Sponsor(s): Kim, Youb
Undergraduate Presentation

Biology

Research Excellence Award Finalist
Insights from a hybrid zone: song diversity and song evolution among sage sparrows in Owens Valley California
Presenter(s): King, Carissa
Faculty Sponsor(s): Benedict, Lauryn
Undergraduate Presentation

Chemistry

Synthesis of A Nitrogen Containing Heterocycle for Analysis of Metalloproteins
Presenter(s): Baier, Ernest; Reynolds, Brian;
Faculty Sponsor(s): Houser, Robert
Undergraduate Presentation

Improving Conceptual Assessment In Organic Chemistry: A Case Of Stereochemistry
Presenter(s): Leontyev, Alexey
Faculty Sponsor(s): Hyslop, Richard
Graduate Presentation

Communication

The Effect of Gender Roles and Conflict Communication Management on Domestic Violence: A College Student Perspective
Presenter(s): Cooper, Nikki
Faculty Sponsor(s): Donley, Melissa
Undergraduate Presentation

Criminal Justice

Research Excellence Award Finalist
What's Love Got To Do With It? How Minor Property Crime Relates to Domestic Violence
Presenter(s): Holien, Jaclyn
Faculty Sponsor(s): West-Smith, Mary
Undergraduate Presentation

Earth Sciences

Relationships Between Lava Lake Thermal Patterns and Active Eruption Processes at Kilauea Volcano, Hawaii
Presenter(s): Burzynski, Amy
Faculty Sponsor(s): Anderson, Steven
Graduate Presentation

Educational Studies

Research Excellence Award Finalist
The Preliminary Effects of Colorado Senate Bill 10-191: Educator Effectiveness on Secondary Education Preservice Teachers
Presenter(s): Crandell, Michelle
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Elementary Educators' Experiences With Children With Mental Health Concerns
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Presenter(s): Leeper, Liz; Byrd, Jessica;
Faculty Sponsor(s): Bardos, Achilles
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Interview results from the Global Refugee Center
Presenter(s): Gamlin, DeVaughn; Polk-McKereghan, Kirsten; Hernandez, Chelsea;
Faculty Sponsor(s): Marston, Christine
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Service Learning at the Global Refugee Center
Presenter(s): Stickler, Carson; Pellman, Justin; Raimer, Lorenzo;
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Issues and Tools in Screening for Emotional Behavioral Disorders
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Hands On Teaching: How teachers support the emergent literacy development of young children with visual impairments
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The Effects Of An Aerobic And Cognitive Training Intervention On Cognitive Function, Psychological, And Physiological Variables In Cancer Survivors And Non-Cancer Controls: A Pilot Study
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Female Sexual Socialization in Relation to Sexual Decision Making Processes
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Mt. Evans Ballroom

Biology

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Gene Annotation in Drosophila biarmipes as part of the Genomics Education Partnership (GEP)
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Joint action approach to studying the effects of pesticides on the multiple life cycle stages of the marine copepod Tigriopus californicus
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Decreased Leishmania major parasite numbers correlate with up-regulated IL-22 expression
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Individuality in Canyon Wren Birdsong
Presenter(s): Eickelman, Kelsey
Faculty Sponsor(s): Benedict, Lauryn
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Cellular Heterogeneity in Luminal Breast Cancers: Why are Basal-like Cells in Luminal Tumors?
Presenter(s): Ferrara, Brittany
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Effects of Experimentally Reduced Food Availability on a Captive Colony of Jamaican Fruit Bats (Artibeus jamaicensis)
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Epithelial to Mesenchymal Transition Induction by zfh-1
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Fluorolysis Assay Development
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Are Mycorrhizal Fungi Helping Plants or Insect Herbivores during Three-Way Interactions?
Presenter(s): Mahaney, Sean; Kelly, Michael;
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Suitable Rock Wren Nest Crevice Habitats
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Examination of the role of BMP signaling in cyst stem cells of the Drosophila testis
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Graduate Presentation

Gene regulation in the brain: characterization of the schizophrenia zinc finger protein ZNF804a
Presenter(s): Yaninek, Andera
Faculty Sponsor(s): Frietze, Seth
Undergraduate Presentation

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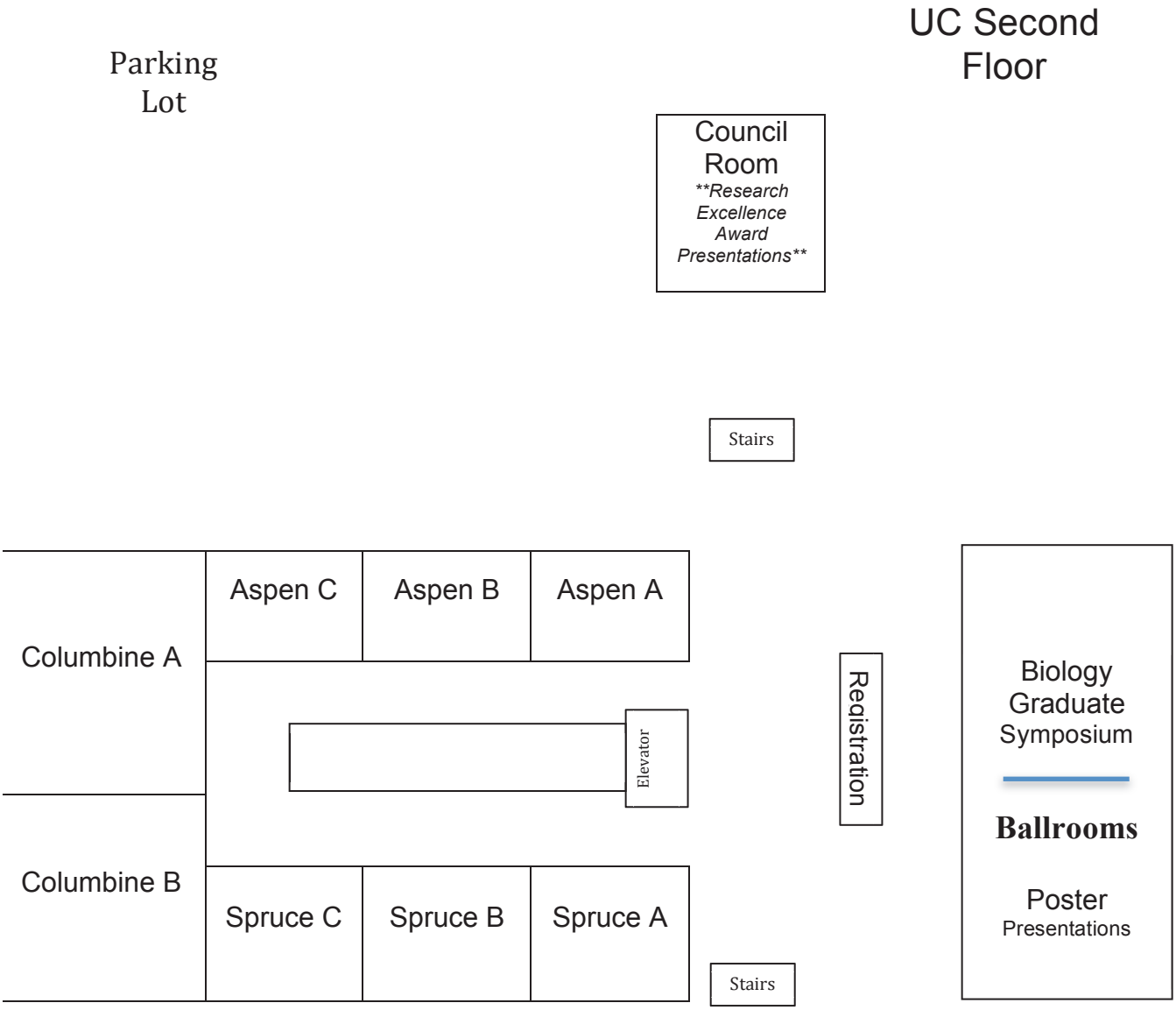

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Research Day and Research Excellence Awards Abstracts

Undergraduate Research Journal University of Northern Colorado

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UNIVERSITY of NORTHERN COLORADO

Undergraduate Research Journal at the University of Northern Colorado

Volume 4, Issue 1, 2014

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The purpose of the current issue is to feature the abstracts of the finalists and winners of the Research Day 2014 Undergraduate Research Excellence Awards.

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Research Day and Research Excellence Awards

For Research Day 2014, first and second place were awarded in the categories of oral presentations and poster presentations in three fields: Natural Sciences, Humanities and Arts, and Education/Behavioral Sciences and Business.

2014 Research Excellence Awards Winners

Natural Sciences – Oral Presentation

1st place – Tassie Forst

2nd place – Kali Arenas, Jasen Kettle, Julie Hernandez

Natural Sciences – Poster Presentation

1st place – Jesus Medrano

2nd place – Rachel McPhee

Humanities and Arts – Oral Presentation

1st place – William Adams

2nd place – Casey Fogel

Humanities and Arts – Poster Presentation

1st place – Hanna Hann

2nd place – Arturo Bugarin-Correa

Education/Behavioral Sciences and Business – Oral Presentation

1st place – Jake Neel

2nd place – Rachel Stice

Education/Behavioral Sciences and Business – Poster Presentation

1st place – Lisha Amin

2nd place – Jennifer Wright

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Undergraduate Research Journal at University of Northern Colorado
Special Edition: Undergraduate Research Excellence Award Winners & Finalists
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Sexuality, Masculinity, and Gender Fluidity in early 20th Century China

William Adams, Asian Studies
Faculty Sponsor: Michelle Low, Modern Languages

Abstract: This presentation delves into matters of sexuality, masculinity and gender fluidity in early 20th Century China, as revealed through the short story, "The Second Mother" written by Ba Jin in 1930. "The Second Mother" deals with an orphaned child who goes to live with his uncle, and who meets another character whom he refers to as his "Second mother." This study focuses on one character in particular, who is an actor in an opera troupe, playing the role of a woman on stage, but also constantly dresses as a woman off stage, very similar to the role of Cheng Dieyi in the 1990's Chinese film, Farewell my Concubine. Through an analysis of the text of the short story and climate of the culture in which the short story was written, issues regarding how individuals assign sexual and gender identities to others as well as themselves are explored. Specifically, this study discusses Chinese views of masculinity through the interactions of the characters within the story.

Female Sexual Socialization in Relation to Sexual Decision Making Processes

Lisha Amin, Communication Studies
Faculty Sponsor: Karen Traxler, Applied Statistics & Research Methods

Abstract: Researchers have studied sources of socialization and satisfaction levels regarding first sexual intercourse experiences and Carpenter (2002) developed three cognitive frameworks of virginity loss: gift, stigma, and process. However, researchers have yet to correlate how these areas are related. The purpose of this quantitative study is to examine how socialization about sex and sexuality influences adolescents' cognitive frameworks and subsequent decisions about and interpretations of first sexual intercourse.

A 20-question survey will be administered to over 250 undergraduate female participants from 18-25 years old recruited from a mid-sized Colorado university. First, I will examine relationships between socialization, cognitive frameworks, and experience of first-sexual intercourse. Second, I will use a backward stepwise multiple linear regression analysis to determine if any particular form of socialization, such as parents, peers, media, religion, or public school education systems will explain females delaying or initiating first sexual intercourse. I hypothesize that those females who were socialized about sex and sexuality from primarily parents and public education systems will have a gift cognitive framework about virginity and will report delaying first sexual intercourse, as well as higher levels of emotional and mental satisfaction and lower levels of physical satisfaction. I also hypothesize that females who were socialized about sex and sexuality from primarily the media and peers will have a stigma cognitive framework about virginity and will report a higher level of physical satisfaction, but lower levels of emotional and mental satisfaction.

This study contributes to the overall discussion of the importance of adolescents being socialized about sex and sexuality so that they may have healthy attitudes towards their sexualities in the future and make healthy choices regarding first sexual intercourse.

Determining Groundwater Flow through the Study of Soil Horizons, Subsurface Geology, and Vegetation at the Poudre Learning Center

Kali Arenas, Jasen Kettle, and Julie Hernandez, Earth Sciences
Faculty Sponsor: William Hoyt, Earth Sciences

Abstract: The purpose of our research is to determine the flow of groundwater at the Poudre Learning Center. As Earth Science students, we are interested in using soil, subsurface geology, and vegetation to determine where groundwater is flowing. In order to research groundwater, we are taking core samples using a telescoping bucket auger. With the core samples, we will be able to measure the thickness of soil horizons and subsurface geology layers. We will create a vertical profile connecting the corresponding layers. This will help us determine where groundwater is likely to flow. After the core is removed, groundwater will flow into the hole in relation with the water table. Using the depth of the water table from each core location, we will be able to illustrate the change in depth throughout the area of study. In addition, we will observe vegetation to determine if there is a correlation between where native grasses grow and the depth of the water table. We will overlay our data from soil horizons, subsurface geology and vegetation to create a map of groundwater flow across the property.

Influences of False-Evidence Ploys on Jurors' Verdicts and Perceptions of the Defendant

Racehl Best, Psychology
Faculty Sponsor: Karen Traxler, Applied Statistics and Research Methods

Abstract: A false evidence ploy (FEP) is a false claim by police to have nonexistent evidence. FEPs are used in police interrogations with the intentions of inspiring guilty but not innocent suspect to confess. FEPs have been connected to several documented cases of false confessions, including four of the five defendants in the Central Park Jogger Case (New York v. Wise et al., 2002; Kassin et al., 2010). False confessions have also been associated with FEP as demonstrated in several studies conducted throughout the last decade (e.g., Horselenberg et al., 2006; Kassin & Perillo, 2010). Despite this evidence of the connections between FEPs and false confessions, courts continue to allow juries to evaluate confessions under the assumption that jurors can recognize and reject coerced confessions (Woody, Forrest, & Stewart, 2010). The current study examined whether informing individual jurors about FEPs and whether FEPs are associated with false confessions would affect jurors' verdicts, recommended sentences, and perceptions of the interrogation. Based on findings from Forrest et al. (2012), we hypothesized that participants who learn that FEPs cause false confessions (FEP-FC) would render fewer guilty verdicts, recommend shorter sentences, and perceive the interrogation as more deceptive and coercive then would participants who learn that FEPs do not cause false confessions (FEP-NFC). Participants included 130 individual mock jurors randomly assigned to one of two conditions (FEP-FC or FEP-NFC). They read a realistic interrogation transcript with a testimonial FEP; the suspect confessed. After reading the transcript participants read the statement about FEPs, and then they were asked to render a verdict, recommend a sentence (if defendant was convicted), and rate the interrogation on a number of dimensions, including deception and coercion. No significant differences emerged between the two conditions, and we explore explanations for these outcomes.

Greca; Use of Art as a Social Distinguisher in Mexico

Arturo Bugarin Correa, Art & Design
Faculty Sponsor: Robert Weis, History

Abstract: This thesis examines the development, creation and characteristics of the charro attire as a piece of art, and its use as a social and class distinguisher in Mexico since the seventeen-century; focusing on the suede patterns called greca that adorn the attire, and their possible native origins. First, I analyzed the social equalization brought by changing laws and customs, most specifically the 1633 royal decree reinforcing King Felipe II's 1568 and 1570 decrees prohibiting natives to ride horses, and the widespread use of the same by the seventeenth century. Then, I explored how those legal prohibitions led to the use of visual identifiers to distinguish between hacendados and their peónes that led to the creation of the charro attire. Second, the charro attire itself was analyzed as a work of art. The process of elaborating a charro attire, who creates them, the materials used, colors, patterns and their origin are examined in order to gain a better understanding of how the origin and development of the attire led to the current design used. The greca itself was analyzed by separating the individual design aspects that create it and then trying to locate, if possible, their origin in indigenous, colonial and foreign design. This has brought to attention the visual, yet little known relationship between hacendados and their peónes, and how the attempt to distinguish between both groups might have in fact united them even more.

The Preliminary Effects of Colorado Senate Bill 10-191: Educator Effectiveness on Secondary Education Preservice Teachers

Michelle Crandell, Social Sciences/Educational Studies
Faculty Sponsor(s): Travis Boyce, Africana Studies; Angela Vaughan, Academic Support & Advising

Abstract: Presently, teacher retention rates are exceedingly low in the United States with one-third of teachers leaving the field after three years. More significantly, half of all teachers in inner city schools quit within three years. In November of 2011, Colorado passed Senate Bill 10-191, which mandates a yearly evaluation for all teachers in the State of Colorado. If preservice teachers are increasingly worried about potential job loss partially due to uncontrollable factors, many might choose to leave the field before even entering the classroom, exacerbating teacher shortages particularly in low income school districts. Drawing on a pool of preservice teachers ready to enter the field at a Colorado state supported institution that is known nationally for its teacher education program, this research examines the effects legislation may have on teacher job satisfaction and retention. 110 preservice teachers in a secondary education teaching program were surveyed and interviewed in a focus group to determine their perception of self in relationship to their professional aspirations as teachers, their willingness to teach in diverse school settings, and how they felt SB 10-191 would affect their role as an educator. Early results evaluated through multiple regression analysis of survey data indicate a distinct fear of the bill and decreased willingness to teach in diverse school settings. These results have the potential to redefine teacher education programs to include more education on the bill and the way it will shape the teaching profession. This may also make it possible for the State of Colorado to redefine the implementation of the bill to match high teacher expectations with high teacher retention rates in all school districts.

Dispelling the Stigma of Mental Illness: What Sort of Information Is Most Effective?

Casey Fogel, Communication Studies
Faculty Sponsor: Jarae Fulton, Communication Studies

Abstract: Public attitudes toward people with mental illness are relevant to the social, psychological, physical, and economic well-being of those affected by mental illness. Individuals afflicted with mental illness often avoid seeking help for fear the confidentiality of their diagnosis or treatment will be violated. The current study is designed to assess the relative effectiveness of different types of stigma reducing education. A sample of college students will be administered a revised version of Day's Mental Illness Stigma Scale before and after viewing an educational documentary video. Half the participants will view a video narrated by an affected peer demonstrating the success possible for an individual with mental illness, and the others will view the same video narrated by a famous actress. The responses to the mental illness stigma scale will be analyzed using a repeated measures ANOVA to determine the effectiveness of each of the educational methods. It is expected that the findings of this study will help those who create stigma reduction education campaigns better address the needs of their target audiences.

6-Thiopurine and Thiol-Fluorescent Probes

Tassie Forst, Chemistry
Faculty Sponsor: Richard Hyslop, Chemistry & Biochemistry

Abstract: When it comes to analyzing and measuring drugs within the human body there are many techniques that can be utilized. Some are more specific or accurate than others. For my research I am working with an anitleukemic drug, 6-thiopurine (6-TP) to find a more sensitive measurement in biological tissues than what is available currently. I am going to do this by using a thiol fluorescent probe, 9-chloromethyl anthracene, which can create an extremely sensitive measuring technique for detecting compounds in the body. My research is to find a successful way to attach the thiol fluorescent probe to 6-TP so it can be used to detect 6-TP in biological tissues with high sensitivity. I will do so by making solutions of 6-TP and 9-chloromethyl anthracene and reacting them to form the new product, 6-TP with the attached thiol fluorescent probe. The results thus far have been measured using thin layer chromatography (TLC) to separate the new product but this has not been extremely successful. Other methods to separate the new product I will be using are preparative TLC which will hopefully give a measurable product to determine the structure of the new product and if the reaction was successful.

The Influence of Historical Violin Treatises on Modern Teaching and Performance Practices

Hanna Hann, Music Education
Faculty Sponsor: Bob Ehle, Music

Abstract: Effective technique in violin playing has evolved because of several historical pedagogical treatises written by knowledgeable masters. These treatises have been of great influence in the development of today's pedagogical approaches. Unfortunately, many students may not know why a technique was prescribed and how the various aspects of technique work together. Understanding why these techniques are used today, and even how they evolved, can help a student correctly apply and reach the desired result. The treatises of Francesco Geminiani (1751), Leopold Mozart (1756), L'abbe le Fils (1761), and Pierre Marie Froncois de Sales Baillot (1834) were analyzed to research how and why today's optimal Franco-Belgian violin technique was established. Using qualitative analysis, each master's technique was documented with an emphasis on understanding the reason, or effectiveness of technique. Their approaches to various performance matters— right hand dexterity, facility, speed, and agility, as well as articulation, volume, dynamics, and even vibrato— are compared and contrasted.

What's Love Got To Do With It? How Minor Property Crime Relates to Domestic Violence

Jaclyn Holien, Criminal Justice
Faculty Sponsor: Mary West-Smith, Criminal Justice

Abstract: In 1994, in response to concerns about domestic violence, Colorado State Legislature created statutes intended to protect victims of intimate partner violence. Colorado Revised Statute 18-6-800.3 defines domestic violence as "an act of violence or threatened act of violence upon a person with whom the actor is, or has been, involved in an intimate relationship." This statute also includes other crimes against persons, property or animals "when used as a method of punishment, revenge, intimidation, coercion, or control." The inclusion of 'other crimes' in this definition is unique to Colorado, and because Colorado law mandates police officers to make an arrest in domestic violence situations, these statutes may have inadvertently led to an increase in arrests for domestic violence crimes throughout the state. The literature concerning domestic violence demonstrates how this crime has become more recognizable over the last forty years through its criminalization, education of the public, and victims' rights advocacy programs. What remains to be explored however, are the possible unforeseen consequences of stringent policy changes, broad definitions, and limited police and prosecutorial discretion. By focusing on misdemeanor property crimes that are prosecuted as crimes related to domestic violence, I examine how the statutory language of domestic violence laws in Colorado is being interpreted by members of the criminal justice system such as law enforcement, and prosecuting attorneys. Participants for this study include members of law enforcement, domestic violence treatment providers, and offenders who were charged with domestic violence after committing minor property damage. The data for this research has been collected and analyzed using qualitative methods wherein participants have been interviewed and their responses have been transcribed. Preliminary findings suggest that law enforcement officials feel they must make an arrest when property damage has occurred between intimate partners though many feel it is unnecessary.

Insights from a Hybrid Zone: Song Diversity and Song Evolution among Sage Sparrows in Owens Valley, California

Carissa King, Biological Sciences
Faculty Sponsor: Lauryn Benedict, Biological Sciences

Abstract: In Owens Valley California, a hybrid zone exists between two subspecies of sage sparrow: Amphispiza belli canescens and Amphispiza belli nevadensis. As oscine passerines, sage sparrows learn their songs. Therefore, a comparison of song characteristics with genetic data can provide insight into how cultural and genetic evolution influence trait diversity. In this study we analyzed and compared the songs from birds located at the northern end (pure A.b. nevadensis), southern end (pure A.b. canescens), and the middle of the contact zone (hybrids). We found significant differences between A.b. nevadensis and A.b. canescens in 6 of 7 variables describing song timing and audio frequency. The usage of identified syllables in the songs also varied based on subspecies and location. None of the identified syllables were used exclusively by A.b. nevadensis or A.b. canescens, while 16 syllables were used exclusively by hybrids. The majority of birds in the hybrid zone showed a mixture of A.b. nevadensis and A.b. canescens song characteristics and syllable usage. A principle component analysis showed distinct song characteristics for both the northern and southern populations, with the hybrid songs showing characteristics that encompass most of the components from both ends of Owens Valley. Song in this area appears to be learned from both parent populations, but song characteristics do not vary concordantly with diversity. In several hybrid populations the pattern of mtDNA haplotypes did not match the pattern of song characteristics. The presence and form of hybrid songs indicate that cultural and genetic evolution may act differently to shape sage sparrow traits across Owens Valley.

The Effects of a 12-Week Aerobic and Cognitive Training Intervention on Psychological, Muscular Endurance, and Attention in Cancer Survivors: A Pilot Study

Rachel McPhee, Sport & Exercise Science
Faculty Sponsor: Brent Peterson, Sport & Exercise Science

Introduction: Despite current advances, cancer survivors often experience an array of symptoms often outweighing the benefits of treatments such as; chemotherapy, radiation, or surgical intervention causing issues of pain, fatigue and what is termed Chemotherapy-related Cognitive Impairment (CRCI). CRCI may affect a number of processes such as; processing speed, working memory, memory, concentration, executive function, organizational skills, linguistic skills, and activities of daily living; ultimately negatively impacting Quality of Life (QOL) and cognitive function of suffering individuals. Research has indicated that individual aerobic and cognitive training programs result in improvements of various cognitive functions. However, this is the first examination of a combined cognitive and aerobic training program. **Purpose**: To examine the effects of a 12-week aerobic and cognitive training intervention on attentional acuity, muscular endurance, and psychological measures in cancer survivors. **Methods**: Six subjects each completed an initial comprehensive physical assessment, cognitive assessment, and QOL assessment, (TMT-A) visual attention test, and Beck depression, and Piper fatigue inventories. Assessment were followed by a 12-week computer-based cognitive training, aerobic training, and flexibility training intervention was completed. Change was calculated as percentages from pre-assessment to post-assessment. **Results**: Pre to post evaluation of percent change resulted in decreased time of task completion, suggesting improvements in attentional acuity (-56.4%). All physiological measures improved presenting noticeable declines in fatigue (-9.0%), and depression (-14.3%) and an increase in QOL (1.0%). Improvements were also presented in muscular endurance (15.1%) and all measures of flexibility. **Conclusion**: although data are preliminary, this information would suggest that cognitive and aerobic training may be a viable method for the improvement of CRCI, and muscular endurance in cancer survivors.

Current Literature on Sensory Processing Specificity in Autism

Jannessa McReynolds, Psychology
Faculty Sponsor: Nancy Karlin, Psychology

Abstract: This literature review is being written in preparation for data collection. Currently, autism is defined at the behavioral level. Although much has been learned about the genetic, environmental, structural, and neuropsychological etiologies of autism much more research must be conducted to reach a full comprehensive definition of the disorder. At the behavioral level, a significant portion of individuals with autism have some level of sensory processing deficit, studies report 100% prevalence in this population. The goal of many researchers in the autism field is to identify how abnormal sensory response patterns differentiate this group from those with other developmental disorders as well as those who are typically developing. Findings show a unique pattern of under-responsivity to external stimuli as a function of maturation, in abnormal proprioceptive processing, and in auditory filtering. The present study seeks to verify previous findings and further the investigation of unique modulation patterns across sensory systems in this population. This will be evaluated with the use of the Short Sensory Profile, a questionnaire given to caregivers to asses his/her child's response to sensory stimuli while performing a variety of tasks in daily life. Participants will include parents or legal guardians of individuals diagnosed with autism, individuals diagnosed with attention-deficit hyperactivity disorder, and individuals without a diagnosis demonstrating typical developmental patterns.

The Effects of an Aerobic and Cognitive Training Intervention on Cognitive Function, Psychological, and Physiological Variables in Cancer Survivors and Non-Cancer Controls: A Pilot Study

Jesus Medrano, Sport & Exercise Science
Faculty Sponsor: Reid Hayward, Sport & Exercise Science

Introduction: There are more than 100 clinically distinct types of cancer, each having their own symptoms and requiring different methods of cancer treatment. Despite current advances, the positive effects from treatment are often matched and overshadowed by negative side effects. One of the most prevalently reported symptoms is chemotherapy-related cognitive impairment (CRCI). CRCI has been reported to negatively affect memory, concentration, reaction time, attention, cognition, organizational skills, linguistic abilities, executive function, and activities of daily living. **Purpose**: To examine the effects of 12-weeks of aerobic and cognitive training on cognitive function in cancer survivors who have undergone or are currently undergoing adjuvant treatment for cancer. **Methods**: Eight cancer survivors and two non-cancer controls participated in this pilot study. Groups were composed of cancer-aerobic (n = 2), cancer- cognitive (n = 2), cancer-flexibility only (n = 2), cancer-aerobic and cognitive (n = 2), and non-cancer controls (n = 2). Each subject completed an initial comprehensive physical assessment, cognitive assessment, Quality of Life (QOL) assessment, Piper fatigue inventory, and Beck depression inventory. Following these assessments, a 12-week computer-based aerobic and cognitive training intervention was completed for every subject. All aforementioned variables were reassessed upon completion of the intervention. **Results**: Friedman's 2-way non-parametric ANOVA revealed significant ($p \neg< 0.05$) differences in QOL, depression, Piper fatigue subtest-B, all physiological variables, and the Weschler Memory Scale LMII between all groups. However, follow-up dependent measures t-tests only confirmed significant ($p< 0.05$) decreases in fatigue in the cancer-cognitive group. **Conclusion**: Although results are preliminary and sample sizes are small, the data would suggest that both cancer survivors and non-cancer controls respond favorably toward aerobic and/or cognitive training and that cognitive training alone may be specifically beneficial for cancer survivors.

Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design

Jake Neel, Business Administration
Faculty Sponsor: Joseph Cahalan, Accounting

Abstract: The Social Security and Retirement Savings Crisis is an important and prevalent issue in the United States. However, the current §25B tax incentive for Low- to Moderate-Income (LMI) taxpayers, also known as the "Saver's Credit," is typically unutilized. My purpose for this research is to identify the causes for this low utilization, while developing suggestions to improve the credit's use by making it more attractive to the targeted LMI population.

In order to identify preferences, I have distributed paper surveys to Volunteer Income Tax Assistance (VITA) clients in Weld County, Colorado. Additionally, online surveys were distributed through social networks such as Facebook and LinkedIn.

To supplement this quantitative information, open-ended questions were included with the online survey and I also plan to conduct in-person focus groups in order to further identify themes in respondents' preferences.

The sample for the paper and online survey will include at least 100 participants, while the focus group will be conducted with at least 3 people.

It is expected that taxpayers will choose a design that is simple, more beneficial to those who have less wealth, flexible for those with lower liquidity, and contains a refundable portion that potentially enables and increases LMI taxpayer tax refunds. Based on the results, a credit redesign will be formulated and suggested to increase utilization of the Saver's Credit, and subsequently increasing taxpayer saving and retirement security in the long term.

What Fosters a Successful Resident Assistant? A Qualitative Study on Resident Assistant's Development of Self-Authorship

Rachel Stice, Higher Education & Student Affairs Leadership
Faculty Sponsor: Matthew Birnbaum, Higher Education & Student Affairs Leadership

Abstract: Resident Assistants (RAs) hold a challenging position on college campuses. In addition to performing as a full time student, an RA is given an incredible amount of responsibility in various facets, including peer education, policy enforcement, administrative tasks, and role modeling positive behaviors. With the evolution of Higher Education in the U.S., RAs are now charged with promoting student development and various multi-faceted responsibilities. However, there are limited research studies and theories specifically addressing this population. Utilizing qualitative research methods, this case study explores the student development of 7 Resident Assistants through the lens of Baxter Magolda's theory of self-authorship. Participants from the University of Northern Colorado (UNC) describe their experiences as an RA through a semi-structured interview with the following themes: how their experience as an RA impacted their social life, how their experiences in training shaped their own experience as an RA, how they felt supported throughout their experiences as an RA and what they have found value in as an RA. Through this process there was a particular interest in understanding how RAs are able to complete their public responsibilities while maintaining student identities at a university. Based on participant's responses, the conclusions of this research indicate that a more supportive curriculum for professional staff directly involved with RAs that will support their own cognitive, social and academic development. Student Staff Training is identified as a strong catalyst for providing that supported environment. The intention of this research it to provide future RAs with tools so they may be better equipped to handle the challenges of the RA role and can also apply their support into their roles as citizens in the work force.

Reconstructing Activity Patterns at Epidamnus, Albania: Impacts of Greek and Roman Colonization

Jennifer Wright, Anthropology
Faculty Sponsor: Britney McIlvaine, Anthropology

Abstract: Colonization is often associated with exploitation of local laborers. However, the degree to which physical activity in local populations changes following colonization depends upon the policies of the colonizers, and the technology that is locally available. This research tests the null hypothesis that levels of physical activity, as evidenced by osteoarthritis in human skeletons, remained constant at Epidamnus, Albania during Greek and Roman colonial occupation (620-100BC). To test this hypothesis, 80 skeletons from Epidamnus were examined for evidence of osteoarthritis, and scored according to international standardized protocols. Of these 80 individuals, 27 were adults that showed sufficient preservation for analysis of osteoarthritis. Results indicate that osteoarthritis was more pronounced in all joint surfaces during the Greek than the Roman period (shoulder, elbow, wrist, hip, knee, ankle, cervical vertebra, and temporomandibular joint), with the exception of the thoracic and lumbar vertebrae. Chi-square indicates that this pattern is statistically significant in the shoulder ($p=0.02$) and ankle ($p=0.003$), and approaches significance in the elbow ($p=0.09$), wrist ($p=0.06$), and temporomandibular joint ($p=0.06$). These results do not support the null hypothesis of no change from the Greek to the Roman period. Historical documents indicate that Greek colonization resulted in increased dependence on agriculture and largely replaced nomadic pastoralism in local Illyrians. The Romans then introduced new technologies to increase agricultural efficiency. The emerging pattern indicates that the introduction of new, sophisticated technology made life easier for Illyrians during the Roman period. However, the impacts of small sample size are also considered.

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UNIVERSITY of NORTHERN COLORADO

Undergraduate Research Journal at the University of Northern Colorado

Volume 4, Issue 1, 2014

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The Office of Undergraduate Research at the University of Northern Colorado

The Office of Undergraduate Research (OUR) provides support and recognition for undergraduate student research for all Colleges at the University of Northern Colorado to further University goals for active learning and original research. OUR offers opportunities for grants, internships, workshops, conferences and publication in the Undergraduate Research Journal at the University of Northern Colorado.

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The Undergraduate Research Journal at the University of Northern Colorado

The Undergraduate Research Journal at the University of Northern Colorado (URJ) is a fully open access academic journal that strives to recognize the scholarly accomplishments of undergraduates at UNC and stimulate future scholarly activity. The URJ is published electronically three times per year: spring, summer, and fall. One issue each year is designated a special publication featuring the abstracts of student finalists and winners of the Undergraduate Research Excellence Awards, and another is designated a special publication featuring works of UNC's McNair Scholars. All URJ publications are available at http://journals.sfu.ca/urjnc/index.php/urjnc/index

The purpose of the current issue is to feature the abstracts of the finalists and winners of the Research Day 2014 Undergraduate Research Excellence Awards.

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Research Day and Research Excellence Awards

For Research Day 2014, first and second place were awarded in the categories of oral presentations and poster presentations in three fields: Natural Sciences, Humanities and Arts, and Education/Behavioral Sciences and Business.

2014 Research Excellence Awards Winners

Natural Sciences – Oral Presentation

1st place – Tassie Forst

2nd place – Kali Arenas, Jasen Kettle, Julie Hernandez

Natural Sciences – Poster Presentation

1st place – Jesus Medrano

2nd place – Rachel McPhee

Humanities and Arts – Oral Presentation

1st place – William Adams

2nd place – Casey Fogel

Humanities and Arts – Poster Presentation

1st place – Hanna Hann

2nd place – Arturo Bugarin-Correa

Education/Behavioral Sciences and Business – Oral Presentation

1st place – Jake Neel

2nd place – Rachel Stice

Education/Behavioral Sciences and Business – Poster Presentation

1st place – Lisha Amin

2nd place – Jennifer Wright

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Undergraduate Research Journal at University of Northern Colorado
Special Edition: Undergraduate Research Excellence Award Winners & Finalists
Vol 4, No 1, 2014

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Sexuality, Masculinity, and Gender Fluidity in early 20th Century China

William Adams, Asian Studies
Faculty Sponsor: Michelle Low, Modern Languages

Abstract: This presentation delves into matters of sexuality, masculinity and gender fluidity in early 20th Century China, as revealed through the short story, "The Second Mother" written by Ba Jin in 1930. "The Second Mother" deals with an orphaned child who goes to live with his uncle, and who meets another character whom he refers to as his "Second mother." This study focuses on one character in particular, who is an actor in an opera troupe, playing the role of a woman on stage, but also constantly dresses as a woman off stage, very similar to the role of Cheng Dieyi in the 1990's Chinese film, Farewell my Concubine. Through an analysis of the text of the short story and climate of the culture in which the short story was written, issues regarding how individuals assign sexual and gender identities to others as well as themselves are explored. Specifically, this study discusses Chinese views of masculinity through the interactions of the characters within the story.

Female Sexual Socialization in Relation to Sexual Decision Making Processes

Lisha Amin, Communication Studies
Faculty Sponsor: Karen Traxler, Applied Statistics & Research Methods

Abstract: Researchers have studied sources of socialization and satisfaction levels regarding first sexual intercourse experiences and Carpenter (2002) developed three cognitive frameworks of virginity loss: gift, stigma, and process. However, researchers have yet to correlate how these areas are related. The purpose of this quantitative study is to examine how socialization about sex and sexuality influences adolescents' cognitive frameworks and subsequent decisions about and interpretations of first sexual intercourse.

A 20-question survey will be administered to over 250 undergraduate female participants from 18-25 years old recruited from a mid-sized Colorado university. First, I will examine relationships between socialization, cognitive frameworks, and experience of first-sexual intercourse. Second, I will use a backward stepwise multiple linear regression analysis to determine if any particular form of socialization, such as parents, peers, media, religion, or public school education systems will explain females delaying or initiating first sexual intercourse. I hypothesize that those females who were socialized about sex and sexuality from primarily parents and public education systems will have a gift cognitive framework about virginity and will report delaying first sexual intercourse, as well as higher levels of emotional and mental satisfaction and lower levels of physical satisfaction. I also hypothesize that females who were socialized about sex and sexuality from primarily the media and peers will have a stigma cognitive framework about virginity and will report a higher level of physical satisfaction, but lower levels of emotional and mental satisfaction.

This study contributes to the overall discussion of the importance of adolescents being socialized about sex and sexuality so that they may have healthy attitudes towards their sexualities in the future and make healthy choices regarding first sexual intercourse.

Determining Groundwater Flow through the Study of Soil Horizons, Subsurface Geology, and Vegetation at the Poudre Learning Center

Kali Arenas, Jasen Kettle, and Julie Hernandez, Earth Sciences
Faculty Sponsor: William Hoyt, Earth Sciences

Abstract: The purpose of our research is to determine the flow of groundwater at the Poudre Learning Center. As Earth Science students, we are interested in using soil, subsurface geology, and vegetation to determine where groundwater is flowing. In order to research groundwater, we are taking core samples using a telescoping bucket auger. With the core samples, we will be able to measure the thickness of soil horizons and subsurface geology layers. We will create a vertical profile connecting the corresponding layers. This will help us determine where groundwater is likely to flow. After the core is removed, groundwater will flow into the hole in relation with the water table. Using the depth of the water table from each core location, we will be able to illustrate the change in depth throughout the area of study. In addition, we will observe vegetation to determine if there is a correlation between where native grasses grow and the depth of the water table. We will overlay our data from soil horizons, subsurface geology and vegetation to create a map of groundwater flow across the property.

Influences of False-Evidence Ploys on Jurors' Verdicts and Perceptions of the Defendant

Racehl Best, Psychology
Faculty Sponsor: Karen Traxler, Applied Statistics and Research Methods

Abstract: A false evidence ploy (FEP) is a false claim by police to have nonexistent evidence. FEPs are used in police interrogations with the intentions of inspiring guilty but not innocent suspect to confess. FEPs have been connected to several documented cases of false confessions, including four of the five defendants in the Central Park Jogger Case (New York v. Wise et al., 2002; Kassin et al., 2010). False confessions have also been associated with FEP as demonstrated in several studies conducted throughout the last decade (e.g., Horselenberg et al., 2006; Kassin & Perillo, 2010). Despite this evidence of the connections between FEPs and false confessions, courts continue to allow juries to evaluate confessions under the assumption that jurors can recognize and reject coerced confessions (Woody, Forrest, & Stewart, 2010). The current study examined whether informing individual jurors about FEPs and whether FEPs are associated with false confessions would affect jurors' verdicts, recommended sentences, and perceptions of the interrogation. Based on findings from Forrest et al. (2012), we hypothesized that participants who learn that FEPs cause false confessions (FEP-FC) would render fewer guilty verdicts, recommend shorter sentences, and perceive the interrogation as more deceptive and coercive then would participants who learn that FEPs do not cause false confessions (FEP-NFC). Participants included 130 individual mock jurors randomly assigned to one of two conditions (FEP-FC or FEP-NFC). They read a realistic interrogation transcript with a testimonial FEP; the suspect confessed. After reading the transcript participants read the statement about FEPs, and then they were asked to render a verdict, recommend a sentence (if defendant was convicted), and rate the interrogation on a number of dimensions, including deception and coercion. No significant differences emerged between the two conditions, and we explore explanations for these outcomes.

Greca; Use of Art as a Social Distinguisher in Mexico

Arturo Bugarin Correa, Art & Design
Faculty Sponsor: Robert Weis, History

Abstract: This thesis examines the development, creation and characteristics of the charro attire as a piece of art, and its use as a social and class distinguisher in Mexico since the seventeen-century; focusing on the suede patterns called greca that adorn the attire, and their possible native origins. First, I analyzed the social equalization brought by changing laws and customs, most specifically the 1633 royal decree reinforcing King Felipe II's 1568 and 1570 decrees prohibiting natives to ride horses, and the widespread use of the same by the seventeenth century. Then, I explored how those legal prohibitions led to the use of visual identifiers to distinguish between hacendados and their peónes that led to the creation of the charro attire. Second, the charro attire itself was analyzed as a work of art. The process of elaborating a charro attire, who creates them, the materials used, colors, patterns and their origin are examined in order to gain a better understanding of how the origin and development of the attire led to the current design used. The greca itself was analyzed by separating the individual design aspects that create it and then trying to locate, if possible, their origin in indigenous, colonial and foreign design. This has brought to attention the visual, yet little known relationship between hacendados and their peónes, and how the attempt to distinguish between both groups might have in fact united them even more.

The Preliminary Effects of Colorado Senate Bill 10-191: Educator Effectiveness on Secondary Education Preservice Teachers

Michelle Crandell, Social Sciences/Educational Studies
Faculty Sponsor(s): Travis Boyce, Africana Studies; Angela Vaughan, Academic Support & Advising

Abstract: Presently, teacher retention rates are exceedingly low in the United States with one-third of teachers leaving the field after three years. More significantly, half of all teachers in inner city schools quit within three years. In November of 2011, Colorado passed Senate Bill 10-191, which mandates a yearly evaluation for all teachers in the State of Colorado. If preservice teachers are increasingly worried about potential job loss partially due to uncontrollable factors, many might choose to leave the field before even entering the classroom, exacerbating teacher shortages particularly in low income school districts. Drawing on a pool of preservice teachers ready to enter the field at a Colorado state supported institution that is known nationally for its teacher education program, this research examines the effects legislation may have on teacher job satisfaction and retention. 110 preservice teachers in a secondary education teaching program were surveyed and interviewed in a focus group to determine their perception of self in relationship to their professional aspirations as teachers, their willingness to teach in diverse school settings, and how they felt SB 10-191 would affect their role as an educator. Early results evaluated through multiple regression analysis of survey data indicate a distinct fear of the bill and decreased willingness to teach in diverse school settings. These results have the potential to redefine teacher education programs to include more education on the bill and the way it will shape the teaching profession. This may also make it possible for the State of Colorado to redefine the implementation of the bill to match high teacher expectations with high teacher retention rates in all school districts.

Dispelling the Stigma of Mental Illness: What Sort of Information Is Most Effective?

Casey Fogel, Communication Studies
Faculty Sponsor: Jarae Fulton, Communication Studies

Abstract: Public attitudes toward people with mental illness are relevant to the social, psychological, physical, and economic well-being of those affected by mental illness. Individuals afflicted with mental illness often avoid seeking help for fear the confidentiality of their diagnosis or treatment will be violated. The current study is designed to assess the relative effectiveness of different types of stigma reducing education. A sample of college students will be administered a revised version of Day's Mental Illness Stigma Scale before and after viewing an educational documentary video. Half the participants will view a video narrated by an affected peer demonstrating the success possible for an individual with mental illness, and the others will view the same video narrated by a famous actress. The responses to the mental illness stigma scale will be analyzed using a repeated measures ANOVA to determine the effectiveness of each of the educational methods. It is expected that the findings of this study will help those who create stigma reduction education campaigns better address the needs of their target audiences.

6-Thiopurine and Thiol-Fluorescent Probes

Tassie Forst, Chemistry
Faculty Sponsor: Richard Hyslop, Chemistry & Biochemistry

Abstract: When it comes to analyzing and measuring drugs within the human body there are many techniques that can be utilized. Some are more specific or accurate than others. For my research I am working with an anitleukemic drug, 6-thiopurine (6-TP) to find a more sensitive measurement in biological tissues than what is available currently. I am going to do this by using a thiol fluorescent probe, 9-chloromethyl anthracene, which can create an extremely sensitive measuring technique for detecting compounds in the body. My research is to find a successful way to attach the thiol fluorescent probe to 6-TP so it can be used to detect 6-TP in biological tissues with high sensitivity. I will do so by making solutions of 6-TP and 9-chloromethyl anthracene and reacting them to form the new product, 6-TP with the attached thiol fluorescent probe. The results thus far have been measured using thin layer chromatography (TLC) to separate the new product but this has not been extremely successful. Other methods to separate the new product I will be using are preparative TLC which will hopefully give a measurable product to determine the structure of the new product and if the reaction was successful.

The Influence of Historical Violin Treatises on Modern Teaching and Performance Practices

Hanna Hann, Music Education
Faculty Sponsor: Bob Ehle, Music

Abstract: Effective technique in violin playing has evolved because of several historical pedagogical treatises written by knowledgeable masters. These treatises have been of great influence in the development of today's pedagogical approaches. Unfortunately, many students may not know why a technique was prescribed and how the various aspects of technique work together. Understanding why these techniques are used today, and even how they evolved, can help a student correctly apply and reach the desired result. The treatises of Francesco Geminiani (1751), Leopold Mozart (1756), L'abbe le Fils (1761), and Pierre Marie Froncois de Sales Baillot (1834) were analyzed to research how and why today's optimal Franco-Belgian violin technique was established. Using qualitative analysis, each master's technique was documented with an emphasis on understanding the reason, or effectiveness of technique. Their approaches to various performance matters— right hand dexterity, facility, speed, and agility, as well as articulation, volume, dynamics, and even vibrato— are compared and contrasted.

What's Love Got To Do With It? How Minor Property Crime Relates to Domestic Violence

Jaclyn Holien, Criminal Justice
Faculty Sponsor: Mary West-Smith, Criminal Justice

Abstract: In 1994, in response to concerns about domestic violence, Colorado State Legislature created statutes intended to protect victims of intimate partner violence. Colorado Revised Statute 18-6-800.3 defines domestic violence as "an act of violence or threatened act of violence upon a person with whom the actor is, or has been, involved in an intimate relationship." This statute also includes other crimes against persons, property or animals "when used as a method of punishment, revenge, intimidation, coercion, or control." The inclusion of 'other crimes' in this definition is unique to Colorado, and because Colorado law mandates police officers to make an arrest in domestic violence situations, these statutes may have inadvertently led to an increase in arrests for domestic violence crimes throughout the state. The literature concerning domestic violence demonstrates how this crime has become more recognizable over the last forty years through its criminalization, education of the public, and victims' rights advocacy programs. What remains to be explored however, are the possible unforeseen consequences of stringent policy changes, broad definitions, and limited police and prosecutorial discretion. By focusing on misdemeanor property crimes that are prosecuted as crimes related to domestic violence, I examine how the statutory language of domestic violence laws in Colorado is being interpreted by members of the criminal justice system such as law enforcement, and prosecuting attorneys. Participants for this study include members of law enforcement, domestic violence treatment providers, and offenders who were charged with domestic violence after committing minor property damage. The data for this research has been collected and analyzed using qualitative methods wherein participants have been interviewed and their responses have been transcribed. Preliminary findings suggest that law enforcement officials feel they must make an arrest when property damage has occurred between intimate partners though many feel it is unnecessary.

Insights from a Hybrid Zone: Song Diversity and Song Evolution among Sage Sparrows in Owens Valley, California

Carissa King, Biological Sciences
Faculty Sponsor: Lauryn Benedict, Biological Sciences

Abstract: In Owens Valley California, a hybrid zone exists between two subspecies of sage sparrow: Amphispiza belli canescens and Amphispiza belli nevadensis. As oscine passerines, sage sparrows learn their songs. Therefore, a comparison of song characteristics with genetic data can provide insight into how cultural and genetic evolution influence trait diversity. In this study we analyzed and compared the songs from birds located at the northern end (pure A.b. nevadensis), southern end (pure A.b. canescens), and the middle of the contact zone (hybrids). We found significant differences between A.b. nevadensis and A.b. canescens in 6 of 7 variables describing song timing and audio frequency. The usage of identified syllables in the songs also varied based on subspecies and location. None of the identified syllables were used exclusively by A.b. nevadensis or A.b. canescens, while 16 syllables were used exclusively by hybrids. The majority of birds in the hybrid zone showed a mixture of A.b. nevadensis and A.b. canescens song characteristics and syllable usage. A principle component analysis showed distinct song characteristics for both the northern and southern populations, with the hybrid songs showing characteristics that encompass most of the components from both ends of Owens Valley. Song in this area appears to be learned from both parent populations, but song characteristics do not vary concordantly with diversity. In several hybrid populations the pattern of mtDNA haplotypes did not match the pattern of song characteristics. The presence and form of hybrid songs indicate that cultural and genetic evolution may act differently to shape sage sparrow traits across Owens Valley.

The Effects of a 12-Week Aerobic and Cognitive Training Intervention on Psychological, Muscular Endurance, and Attention in Cancer Survivors: A Pilot Study

Rachel McPhee, Sport & Exercise Science
Faculty Sponsor: Brent Peterson, Sport & Exercise Science

Introduction: Despite current advances, cancer survivors often experience an array of symptoms often outweighing the benefits of treatments such as; chemotherapy, radiation, or surgical intervention causing issues of pain, fatigue and what is termed Chemotherapy-related Cognitive Impairment (CRCI). CRCI may affect a number of processes such as; processing speed, working memory, memory, concentration, executive function, organizational skills, linguistic skills, and activities of daily living; ultimately negatively impacting Quality of Life (QOL) and cognitive function of suffering individuals. Research has indicated that individual aerobic and cognitive training programs result in improvements of various cognitive functions. However, this is the first examination of a combined cognitive and aerobic training program. **Purpose**: To examine the effects of a 12-week aerobic and cognitive training intervention on attentional acuity, muscular endurance, and psychological measures in cancer survivors. **Methods**: Six subjects each completed an initial comprehensive physical assessment, cognitive assessment, and QOL assessment, (TMT-A) visual attention test, and Beck depression, and Piper fatigue inventories. Assessment were followed by a 12-week computer-based cognitive training, aerobic training, and flexibility training intervention was completed. Change was calculated as percentages from pre-assessment to post-assessment. **Results**: Pre to post evaluation of percent change resulted in decreased time of task completion, suggesting improvements in attentional acuity (-56.4%). All physiological measures improved presenting noticeable declines in fatigue (-9.0%), and depression (-14.3%) and an increase in QOL (1.0%). Improvements were also presented in muscular endurance (15.1%) and all measures of flexibility. **Conclusion**: although data are preliminary, this information would suggest that cognitive and aerobic training may be a viable method for the improvement of CRCI, and muscular endurance in cancer survivors.

Current Literature on Sensory Processing Specificity in Autism

Jannessa McReynolds, Psychology
Faculty Sponsor: Nancy Karlin, Psychology

Abstract: This literature review is being written in preparation for data collection. Currently, autism is defined at the behavioral level. Although much has been learned about the genetic, environmental, structural, and neuropsychological etiologies of autism much more research must be conducted to reach a full comprehensive definition of the disorder. At the behavioral level, a significant portion of individuals with autism have some level of sensory processing deficit, studies report 100% prevalence in this population. The goal of many researchers in the autism field is to identify how abnormal sensory response patterns differentiate this group from those with other developmental disorders as well as those who are typically developing. Findings show a unique pattern of under-responsivity to external stimuli as a function of maturation, in abnormal proprioceptive processing, and in auditory filtering. The present study seeks to verify previous findings and further the investigation of unique modulation patterns across sensory systems in this population. This will be evaluated with the use of the Short Sensory Profile, a questionnaire given to caregivers to asses his/her child's response to sensory stimuli while performing a variety of tasks in daily life. Participants will include parents or legal guardians of individuals diagnosed with autism, individuals diagnosed with attention-deficit hyperactivity disorder, and individuals without a diagnosis demonstrating typical developmental patterns.

The Effects of an Aerobic and Cognitive Training Intervention on Cognitive Function, Psychological, and Physiological Variables in Cancer Survivors and Non-Cancer Controls: A Pilot Study

Jesus Medrano, Sport & Exercise Science
Faculty Sponsor: Reid Hayward, Sport & Exercise Science

Introduction: There are more than 100 clinically distinct types of cancer, each having their own symptoms and requiring different methods of cancer treatment. Despite current advances, the positive effects from treatment are often matched and overshadowed by negative side effects. One of the most prevalently reported symptoms is chemotherapy-related cognitive impairment (CRCI). CRCI has been reported to negatively affect memory, concentration, reaction time, attention, cognition, organizational skills, linguistic abilities, executive function, and activities of daily living. **Purpose**: To examine the effects of 12-weeks of aerobic and cognitive training on cognitive function in cancer survivors who have undergone or are currently undergoing adjuvant treatment for cancer. **Methods**: Eight cancer survivors and two non-cancer controls participated in this pilot study. Groups were composed of cancer-aerobic (n = 2), cancer- cognitive (n = 2), cancer-flexibility only (n = 2), cancer-aerobic and cognitive (n = 2), and non-cancer controls (n = 2). Each subject completed an initial comprehensive physical assessment, cognitive assessment, Quality of Life (QOL) assessment, Piper fatigue inventory, and Beck depression inventory. Following these assessments, a 12-week computer-based aerobic and cognitive training intervention was completed for every subject. All aforementioned variables were reassessed upon completion of the intervention. **Results**: Friedman's 2-way non-parametric ANOVA revealed significant ($p \neg< 0.05$) differences in QOL, depression, Piper fatigue subtest-B, all physiological variables, and the Weschler Memory Scale LMII between all groups. However, follow-up dependent measures t-tests only confirmed significant ($p< 0.05$) decreases in fatigue in the cancer-cognitive group. **Conclusion**: Although results are preliminary and sample sizes are small, the data would suggest that both cancer survivors and non-cancer controls respond favorably toward aerobic and/or cognitive training and that cognitive training alone may be specifically beneficial for cancer survivors.

Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design

Jake Neel, Business Administration
Faculty Sponsor: Joseph Cahalan, Accounting

Abstract: The Social Security and Retirement Savings Crisis is an important and prevalent issue in the United States. However, the current §25B tax incentive for Low- to Moderate-Income (LMI) taxpayers, also known as the "Saver's Credit," is typically unutilized. My purpose for this research is to identify the causes for this low utilization, while developing suggestions to improve the credit's use by making it more attractive to the targeted LMI population.

In order to identify preferences, I have distributed paper surveys to Volunteer Income Tax Assistance (VITA) clients in Weld County, Colorado. Additionally, online surveys were distributed through social networks such as Facebook and LinkedIn.

To supplement this quantitative information, open-ended questions were included with the online survey and I also plan to conduct in-person focus groups in order to further identify themes in respondents' preferences.

The sample for the paper and online survey will include at least 100 participants, while the focus group will be conducted with at least 3 people.

It is expected that taxpayers will choose a design that is simple, more beneficial to those who have less wealth, flexible for those with lower liquidity, and contains a refundable portion that potentially enables and increases LMI taxpayer tax refunds. Based on the results, a credit redesign will be formulated and suggested to increase utilization of the Saver's Credit, and subsequently increasing taxpayer saving and retirement security in the long term.

What Fosters a Successful Resident Assistant? A Qualitative Study on Resident Assistant's Development of Self-Authorship

Rachel Stice, Higher Education & Student Affairs Leadership
Faculty Sponsor: Matthew Birnbaum, Higher Education & Student Affairs Leadership

Abstract: Resident Assistants (RAs) hold a challenging position on college campuses. In addition to performing as a full time student, an RA is given an incredible amount of responsibility in various facets, including peer education, policy enforcement, administrative tasks, and role modeling positive behaviors. With the evolution of Higher Education in the U.S., RAs are now charged with promoting student development and various multi-faceted responsibilities. However, there are limited research studies and theories specifically addressing this population. Utilizing qualitative research methods, this case study explores the student development of 7 Resident Assistants through the lens of Baxter Magolda's theory of self-authorship. Participants from the University of Northern Colorado (UNC) describe their experiences as an RA through a semi-structured interview with the following themes: how their experience as an RA impacted their social life, how their experiences in training shaped their own experience as an RA, how they felt supported throughout their experiences as an RA and what they have found value in as an RA. Through this process there was a particular interest in understanding how RAs are able to complete their public responsibilities while maintaining student identities at a university. Based on participant's responses, the conclusions of this research indicate that a more supportive curriculum for professional staff directly involved with RAs that will support their own cognitive, social and academic development. Student Staff Training is identified as a strong catalyst for providing that supported environment. The intention of this research it to provide future RAs with tools so they may be better equipped to handle the challenges of the RA role and can also apply their support into their roles as citizens in the work force.

Reconstructing Activity Patterns at Epidamnus, Albania: Impacts of Greek and Roman Colonization

Jennifer Wright, Anthropology
Faculty Sponsor: Britney McIlvaine, Anthropology

Abstract: Colonization is often associated with exploitation of local laborers. However, the degree to which physical activity in local populations changes following colonization depends upon the policies of the colonizers, and the technology that is locally available. This research tests the null hypothesis that levels of physical activity, as evidenced by osteoarthritis in human skeletons, remained constant at Epidamnus, Albania during Greek and Roman colonial occupation (620-100BC). To test this hypothesis, 80 skeletons from Epidamnus were examined for evidence of osteoarthritis, and scored according to international standardized protocols. Of these 80 individuals, 27 were adults that showed sufficient preservation for analysis of osteoarthritis. Results indicate that osteoarthritis was more pronounced in all joint surfaces during the Greek than the Roman period (shoulder, elbow, wrist, hip, knee, ankle, cervical vertebra, and temporomandibular joint), with the exception of the thoracic and lumbar vertebrae. Chi-square indicates that this pattern is statistically significant in the shoulder ($p=0.02$) and ankle ($p=0.003$), and approaches significance in the elbow ($p=0.09$), wrist ($p=0.06$), and temporomandibular joint ($p=0.06$). These results do not support the null hypothesis of no change from the Greek to the Roman period. Historical documents indicate that Greek colonization resulted in increased dependence on agriculture and largely replaced nomadic pastoralism in local Illyrians. The Romans then introduced new technologies to increase agricultural efficiency. The emerging pattern indicates that the introduction of new, sophisticated technology made life easier for Illyrians during the Roman period. However, the impacts of small sample size are also considered.

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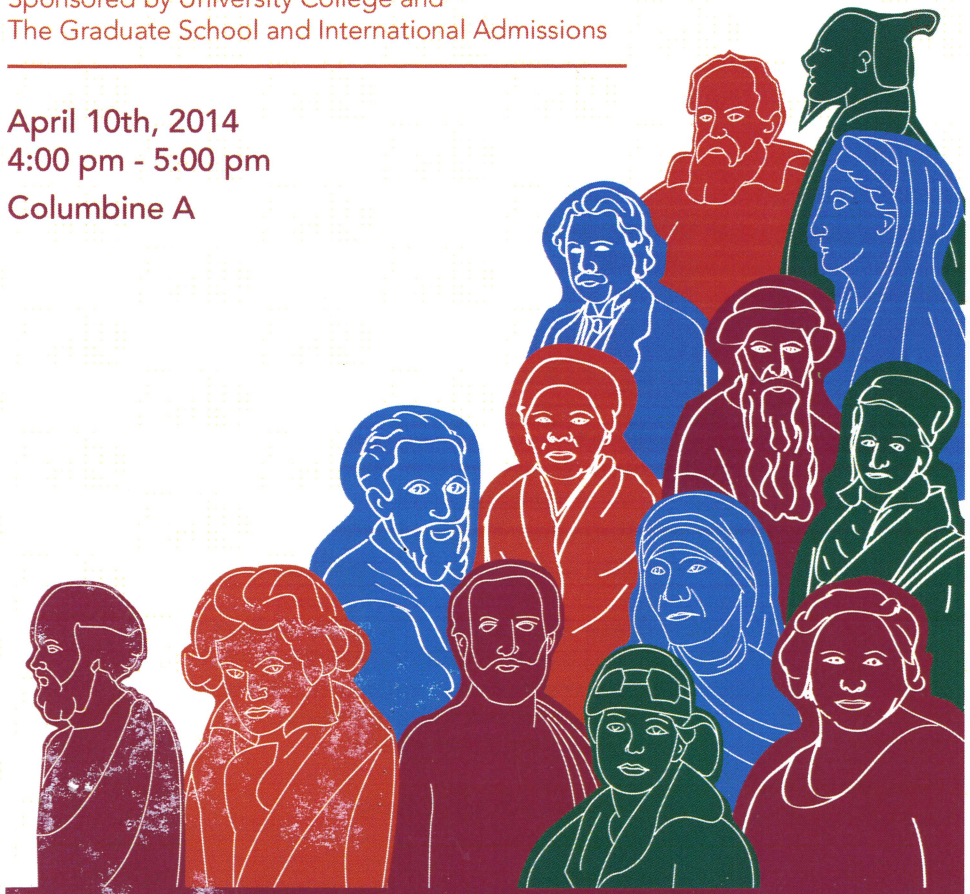

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Graduate Abstract Judges
Trent Lalonde, Jacob Melish, Kyle Nelson

Graduate Abstract and Finalist Judges
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Research Excellence Awards Reception

4:00 pm-5:00 pm
April 10th, 2014
University Center, Columbine A

4:00 — 4:10 pm
Networking and Hors d'oeuvres

4:10 — 4:20 pm
Welcome and Acknowledgements
Dr. Linda Black, Dean of the Graduate School & International Admissions

4:20 — 4:40 pm
Research Excellence Awards - Undergraduate recipients
Dr. Tom Smith, Assistant Vice President, University College

4:40 — 5:00 pm
Research Excellence Awards Graduate recipients
Dr. Linda Black, Dean of the Graduate School & International Admissions

Undergraduate Finalists

Sexuality, Masculinity, and Gender fluidity in early 20th century China
William Adams, Humanities, *Oral Presentation*
Faculty Sponsor: Michelle Low
Presentation ID: 14-0121

Female Sexual Socialization in Relation to Sexual Decision Making Processes
Lisha Amin, Social Scences, Education and Business, *Poster Presentation*
Faculty Sponsor: Karen Traxler
Presentation ID: 14-0026

Determining Groundwater Flow through the Study of Soil Horizons, Subsurface Geology, and Vegetation at the Poudre Learning Center
Kali Arenas, Jasen Kettle and Julie Hernandez, Natural and Health Sciences, *Oral Presentation*
Faculty Sponsor: William Hoyt
Presentation ID: 14-0178

Influences of False-Evidence Ploys on Jurors' Verdicts and Perceptions of the Defendant
Rachel Best, Social Sciences, Education and Business, *Poster Presentation*
Faculty Sponsor: Karen Traxler
Presentation ID: 14-0013

Greca; Use of Art as a Social Distinguisher in Mexico
Arturo Bugarin Correa, Humanities, *Poster Presentation*
Faculty Sponsor: Loree Crow
Presentation ID: 14-0031

The Preliminary Effects of Colorado Senate Bill 10-191: Educator Effectiveness on Secondary Education Preservice Teachers
Michelle Crandell, Social Sciences, Education and Business, *Poster Presentation*
Faculty Sponsor: Travis Boyce
Presentation ID: 14-0022

Dispelling the Stigma of Mental Illness: What Sort of Information Is Most Effective?
Casey Fogel, Humanities, *Oral Presentation*
Faculty Sponsor: Jarae Fulton
Presentation ID: 14-0130

6-Thiopurine and Thiol-Fluorescent Probes
Tassie Forst, Natural and Health Sciences, *Oral Presentation*
Faculty Sponsor: Richard Hyslop
Presentation ID: 14-0075

Identifying Low- to Moderate-Income Taxpayer Preferred Characteristics for §25B Design
Jake Neel, Social Sciences, Education and Business, *Oral Presentation*
Faculty Sponsor: Joseph Cahalan
Presentation ID: 14-0020

What Fosters a Successful Resident Assistant? A Qualitative Study on Resident Assistant's Development of Self-Authorship
Rachel Stice, Social Sciences, Education, and Business, *Oral Presentation*
Faculty Sponsor: Matthew Birnbaum
Presentation ID: 14-0009

Current Literature on Sensory Processing Specificity in Autism
Jannessa McReynolds, Social Sciences, Education, and Business, *Oral Presentation*
Faculty Sponsor: Nancy Karlin
Presentation ID: 14-0100

The Influence of Historical Violin Treatises on Modern Teaching and Performance Practices
Hanna Hann, Humanities, *Poster Presentation*
Faculty Sponsor: Loree Crow
Presentation ID: 14-0174

What's Love Got To Do With It? How Minor Property Crime Relates to Domestic Violence
Jaclyn Holien, Humanities, *Poster Presentation*
Faculty Sponsor: Mary West-Smith
Presentation ID: 14-0163

Insights from a hybrid zone: song diversity and song evolution among sage sparrows in Owens Valley California
Carissa King, Natural and Health Sciences, *Poster Presentation*
Faculty Sponsor: Lauryn Benedict
Category: Presentation ID: 14-0089

The Effects of a 12-Week Aerobic and Cognitive Training Intervention on Psychological, Muscular Endurance, and Attention in Cancer Survivors: A Pilot Study
Rachel McPhee, Natural and Health Sciences, *Poster Presentation*
Faculty Sponsor: Brent Peterson
Presentation ID: 14-0139

The Effects of an Aerobic and Cognitive Training Intervention on Cognitive Function, Psychological, and Physiological Variables in Cancer Survivors and Non-Cancer Controls: A Pilot Study
Jesus Medrano, Natural and Health Sciences, *Poster Presentation*
Faculty Sponsor: Reid Hayward
Category: Presentation ID: 14-0175

Reconstructing activity patterns at Epidamnus, Albania: Impacts of Greek and Roman colonization
Jennifer Wright, Social Sciences, Education and Business, *Poster Presentation*
Faculty Sponsor: Britney McIlvaine
Presentation ID: 14-0018

Graduate Finalists

Saudi International College Female Students' Social Media Identity
Tahani Alruwaili, Social Sciences, Education and Business, *Poster Presentation*
Faculty Sponsor: James Gall
Presentation ID: 14-0154

Aerobic and Cognitive Training Improves Psychosocial Variables in Cancer Survivors Following Radiation Therapy
Corey Beebe, Natural and Health Sciences, *Poster Presentation*
Faculty Sponsor: Reid Hayward
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The Effects of Aerobic Training on Cognitive Function in a Brain Cancer Survivor: A Case Study
Alyse Brennecke, Natural and Health Sciences, *Poster Presentation*
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Effects of Load Carriage and Footwear on Spatiotemporal Parameters, Kinematics, and Metabolic Cost of Walking
Kevin Dames, Natural and Health Sciences, *Oral Presentation*
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Positive Professional Development: Experiences of New Professionals in Student Affairs
Amy Dinise-Halter, Social Sciences, Education and Business, *Oral Presentation*
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Movement Strategies During Stand To Sit And Sit To Stand Tasks In Transtibial Amputees
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Native American College Students: Making Meaning of Identity and Culture at a Predominately White Institution
Larry Loften, Genia Lemonedes, Courtney Matsumoto, Katie McCue, Christine Hannen, Social Sciences, Education and Business, *Oral Presentation*
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Humor as an instructional technique and its influence on interest, relatedness, affect and learning.
Moshe Machlev, Social Sciences, Education and Business, *Oral Presentation*
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Beyond the Minimalist Ethical Codes: Research with Young Children
Raveema Mongkolrat, Social Sciences, Education and Business, *Poster Presentation*
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Cost Benefit Analysis of Improving Outcomes by Accurately Assessing Body Temperature Using Temporal Artery Scan Thermometers
Lesley Murphy, Natural and Health Sciences, *Poster Presentation*
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TCDD enhances LPS stimulated TNF production in human THP-1 macrophages
Vera Pikalova, Natural and Health Sciences, *Oral Presentation*
Faculty Sponsor: Gregory DeKrey
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Using Communication Applications on iPad: To Request My Needs
Effat Shugdar, Social Sciences, Education and Business, *Poster Presentation*
Faculty Sponsor: John Luckner
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Struggling for Air: The Union Balloon Corps and the Bureaucratic Intelligence Experiment
Timothy Snell, Humanities, *Oral Presentation*
Presentation ID: 14-0101

Re-examining the Past: The Yellow Turban Rebellion in the Work of Sima Guang (1019-1086 CE)
Brian Zielenski, Humanities, *Oral Presentation*
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